



Petronila Creek

Dissolved Solids Impairments TMDL

Data Results Presentation



**Texas Commission on Environmental Quality, EA Engineering, Science & Technology Inc.,
and The Louis Berger Group**



Project Segments

- Segment 1214 - San Gabriel River – **De-listed**
- Segment 1244 - Brushy Creek – **De-listed**
- Segment 1426 - Colorado River below E.V. Spence Reservoir
- Segment 2204 - Petronila Creek



Segment 1214 - San Gabriel River Overview

- ✦ Placed on the 2000 Clean Water Act (CWA) §303(d) list because **chloride exceeded** the segment specific criteria of **50 mg/L**.
- ✦ Designated Uses
 - ◆ Aquatic Life
 - ◆ Contact Recreation
 - ◆ General Use
 - ◆ Fish Consumption
 - ◆ Public Water Supply
- ✦ **Delisted** – based on data, the average concentration of chloride is below the criteria.

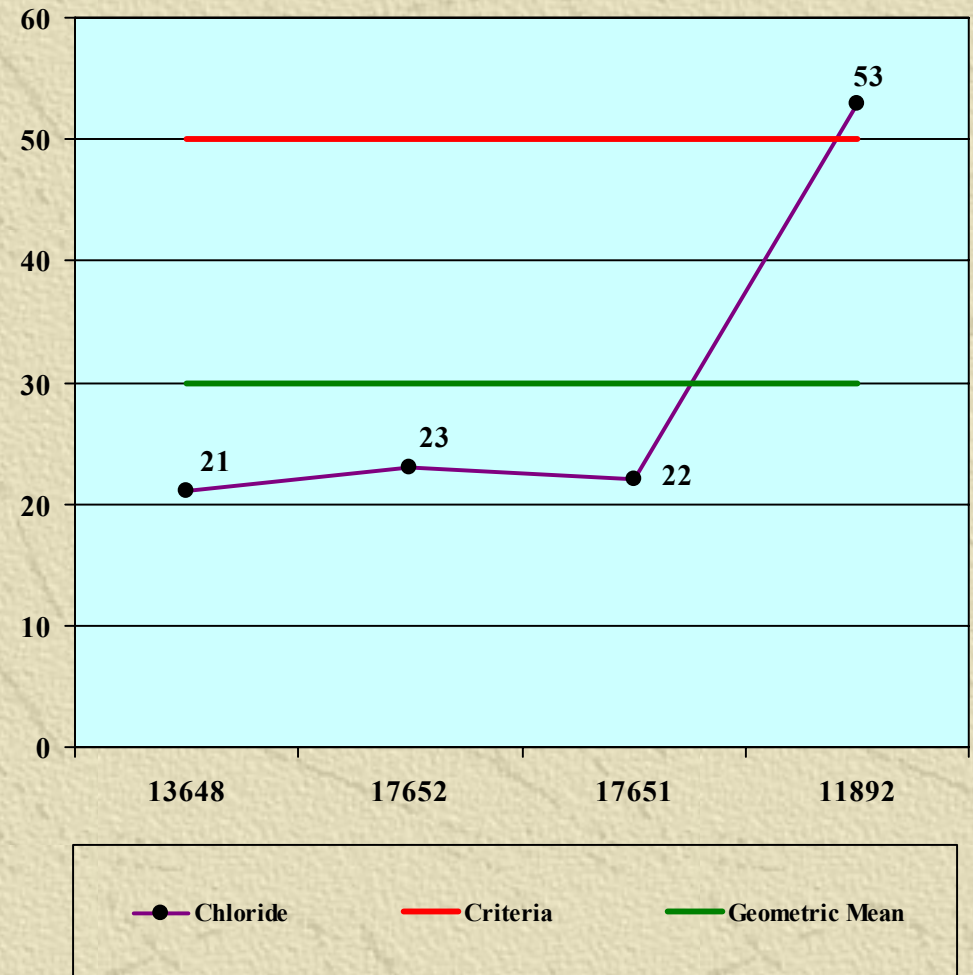


Project Sample Results

Segment 1214 – San Gabriel River

- ✧ **Station ID 13648** - San Gabriel River at CR 0.2 Miles North of Laneport, 7.5 Miles NW of Thrall
- ✧ **Station ID 17652** - San Gabriel River 0.5 Miles South of San Gabriel Town on FM 486
- ✧ **Station ID 17651** - San Gabriel River at CR 429 South of FM 487
- ✧ **Station ID 11892** – San Gabriel River at FM 487 NW of Rockdale

Sample results confirm delisting





Segment 1244 – Brushy Creek Overview

- ✦ Placed on the 2000 Clean Water Act (CWA) §303(d) list because **total dissolved solids** (TDS) **exceeded** the segment specific criteria of **800 mg/L**.
- ✦ Designated Uses
 - ◆ Aquatic Life
 - ◆ Contact Recreation
 - ◆ General Use
 - ◆ Fish Consumption
 - ◆ Public Water Supply
- ✦ **Delisted** – based on data, the average concentration of total dissolved solids is below the criteria.

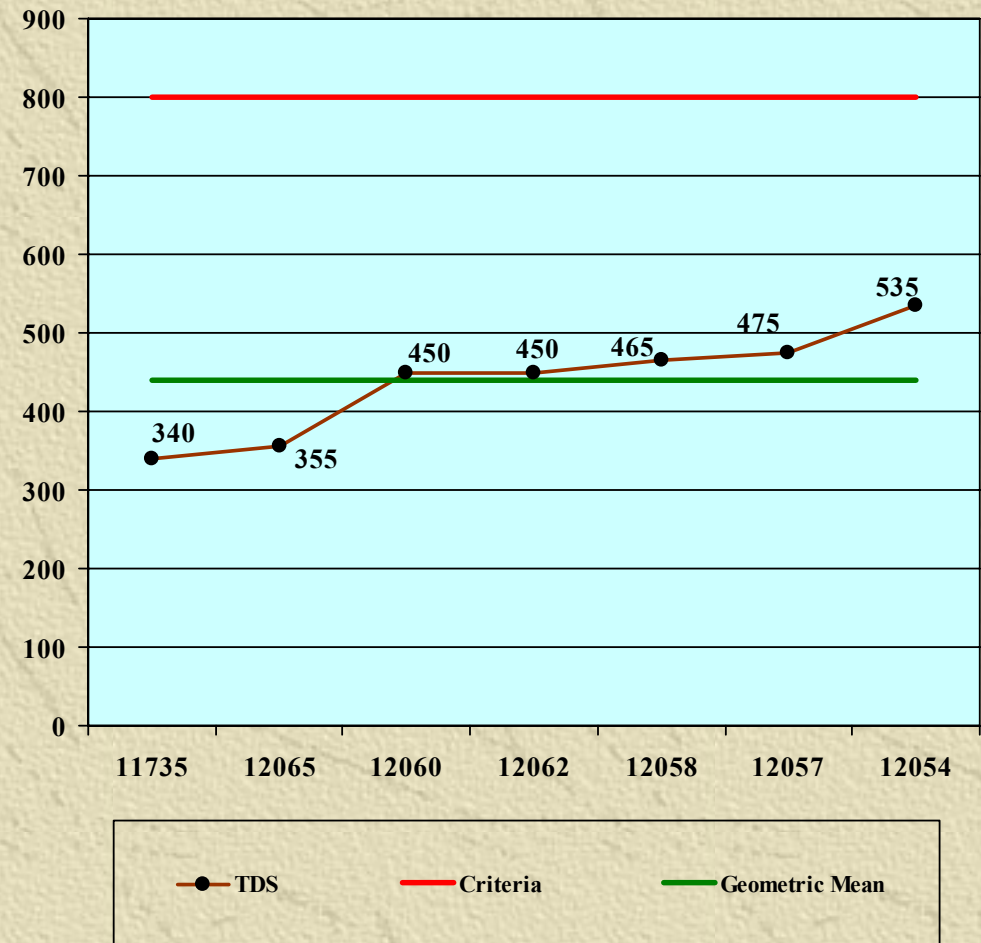


Project Sample Results

Segment 1244 – Brushy Creek

- ✧ **Station ID 11735** – South Brushy Creek at CR 174.
- ✧ **Station ID 12065** – Brushy 150 meters upstream of Lake Creek
- ✧ **Station ID 12060** – Brushy Creek at FM 685
- ✧ **Station ID 12062** – Brushy Creek at CR 122
- ✧ **Station ID 12058** – Brushy Creek at SH 95
- ✧ **Station ID 12057** – Brushy Creek at FM112
- ✧ **Station ID 12054** – Brushy Creek at FM 908 Northwest of Rockdale

Sample results confirm delisting





Segment 2204 - Petronila Creek

Overview

- ✦ Placed on the 2000 Clean Water Act (CWA) §303(d) list because chloride, sulfate and total dissolved solids (TDS) exceeded the segment specific criteria of 1500 mg/L, 500 mg/L, and 4000 mg/L.
- ✦ Designated Uses
 - ◆ Aquatic Life
 - ◆ Contact Recreation
 - ◆ General Use
 - ◆ Fish Consumption



Segment 2204 - Petronila Creek

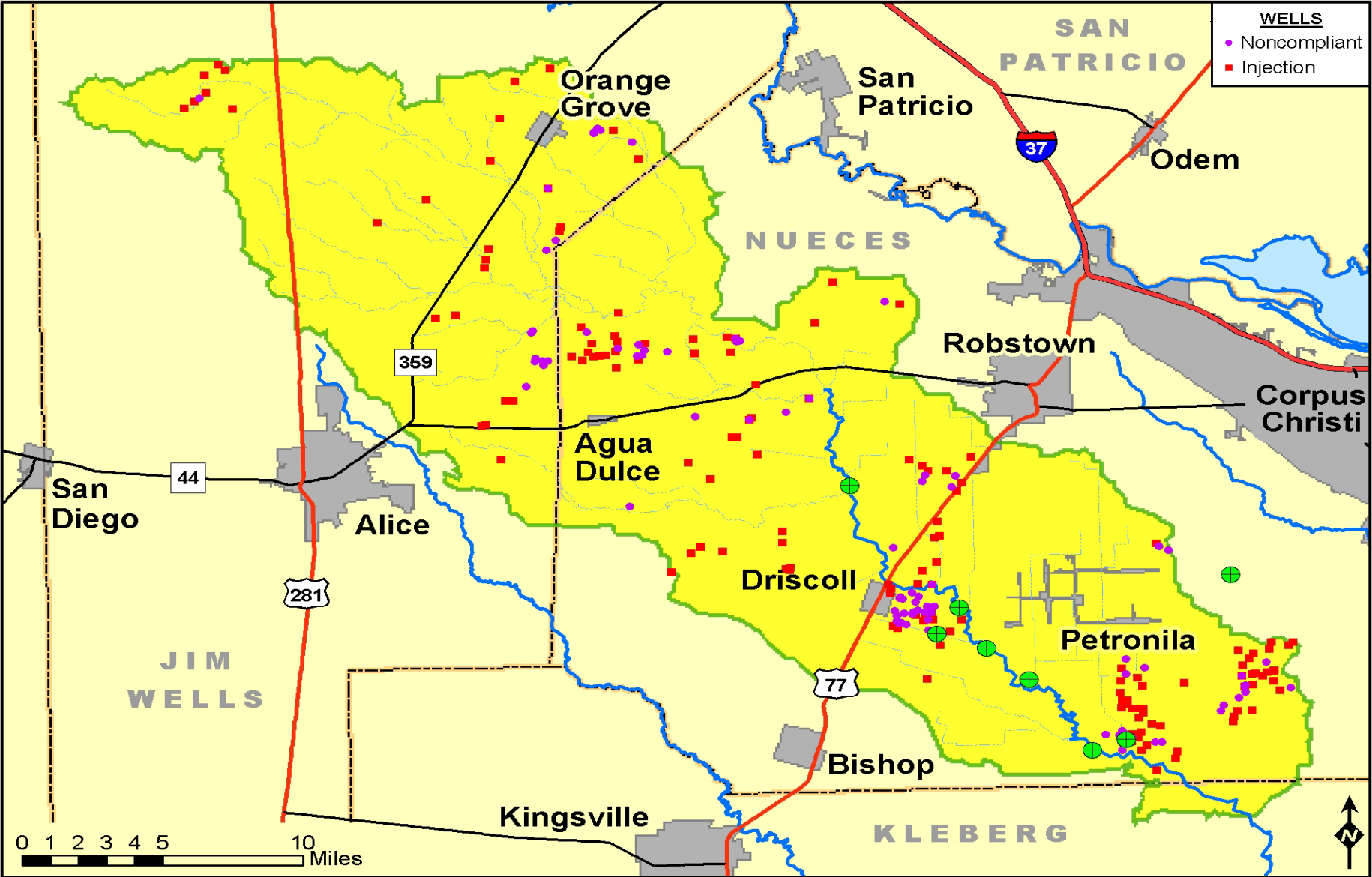
Geography

- ✧ Is located within the Nueces-Rio Grande Coastal River Basin, from a point 0.6 miles upstream of private road crossing near the Laureles Ranch in Kleberg County to the confluence of Agua Dulce and Banquete Creeks in Nueces County. It is a freshwater stream that has a total length of 44 miles.
- ✧ Oil, gas, and petrochemical production contribute to the economy, which is further diversified by tourism, retailing, seaport activity, and operations.
- ✧ In fiscal year '03 the Non-point Source Program (NPS) initiated a contract with the Railroad Commission of Texas (RRC) to eliminate a potential source of salinity in the Petronila Creek drainage basin through the plugging of abandoned, non-compliant oil and gas wells and the re-plugging of improperly plugged wells. A total of 35 wells will be plugged in Nueces, Kleberg, and Jim Wells Counties.





Oil Well Density





Segment 2204 – Petronila Creek Chloride - Project Sample Results

✱ **Station ID 13099** – Petronila Creek at FM 2826 North of Driscoll

✱ **Station ID 13098** – Petronila Creek at US 77

✱ **Station ID 13096** – Petronila Creek at FM 665 East of Driscoll

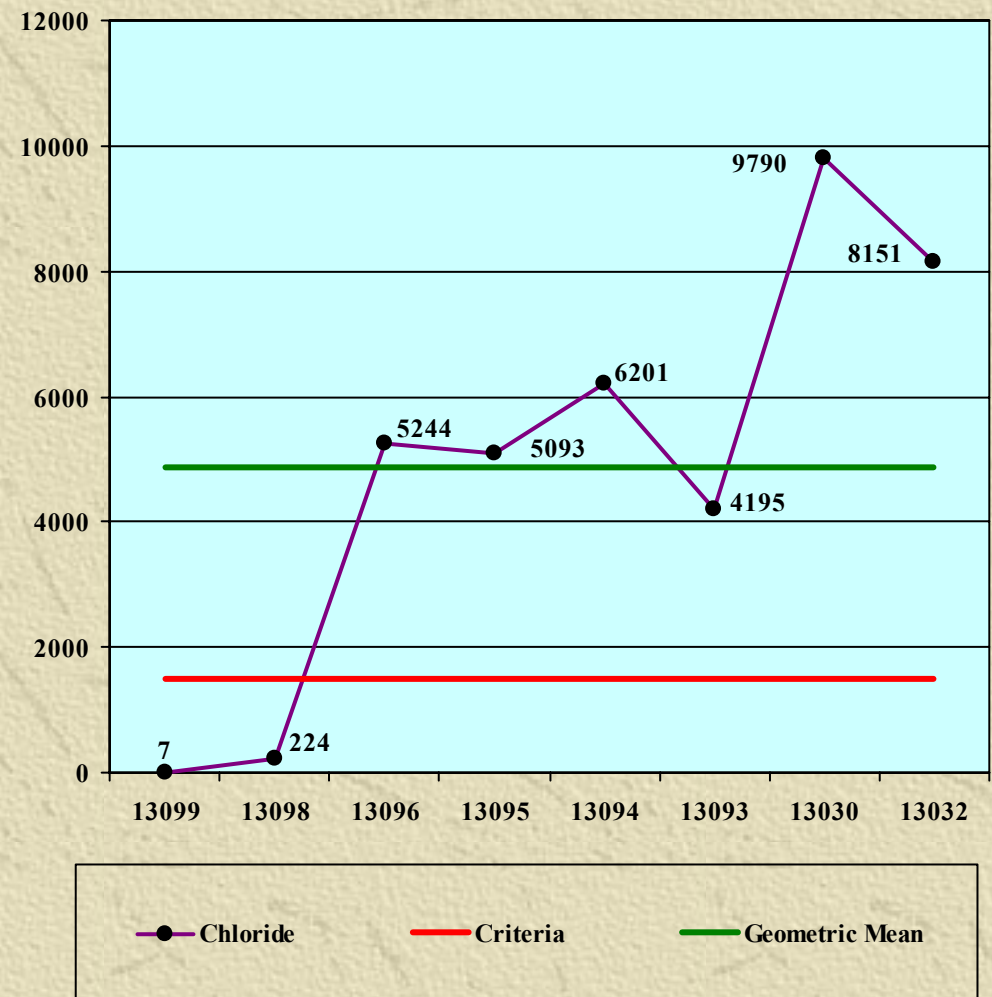
✱ **Station ID 13095** – Petronila Creek at Beatty Road

✱ **Station ID 13094** – Petronila Creek at FM 892

✱ **Station ID 13093** – Petronila Creek at FM 70 East of Bishop

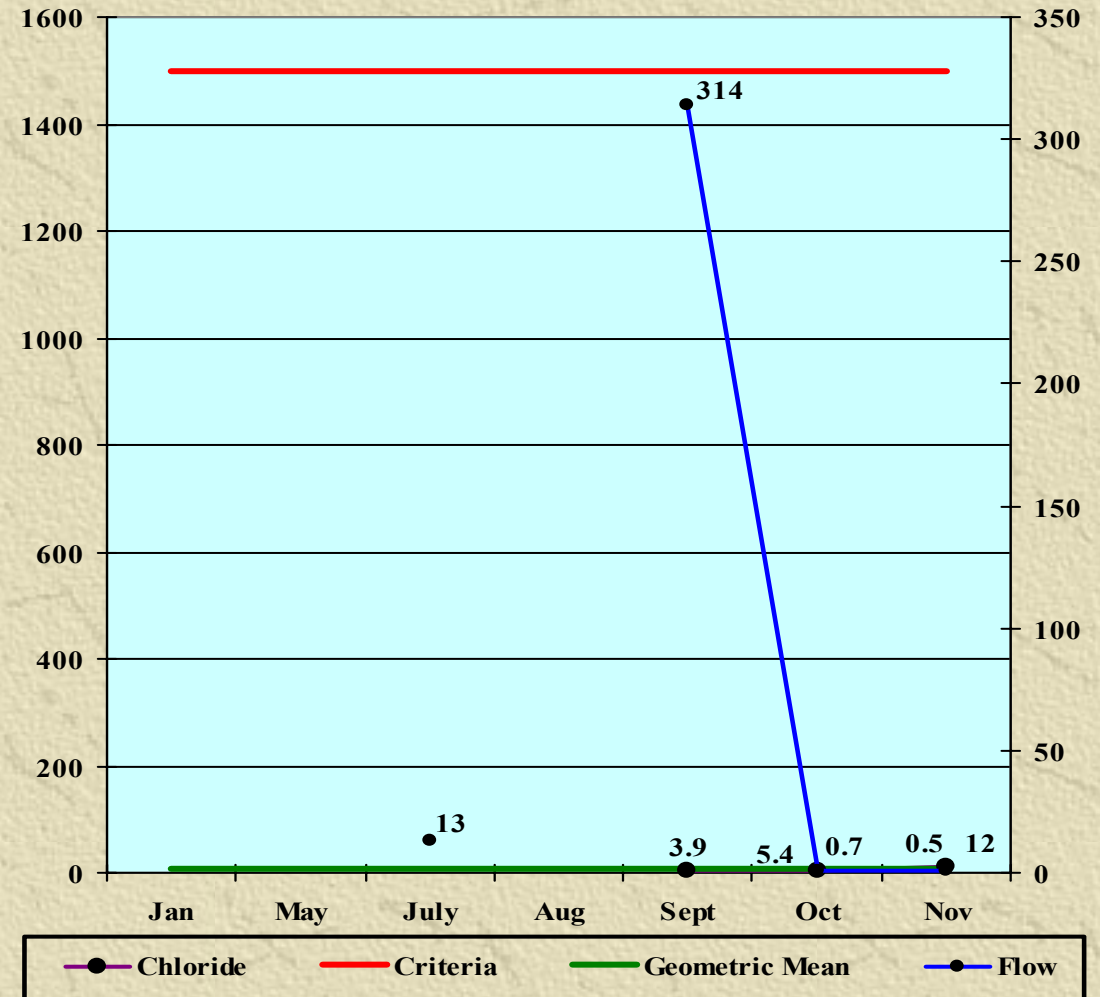
✱ **Station ID 13030** – Unnamed tributary to Petronila Creek at FM 70 near Stanolind-Luby

✱ **Station ID 13032** – Unnamed drainage ditch tributary to Petronila Creek at Beatty Rd



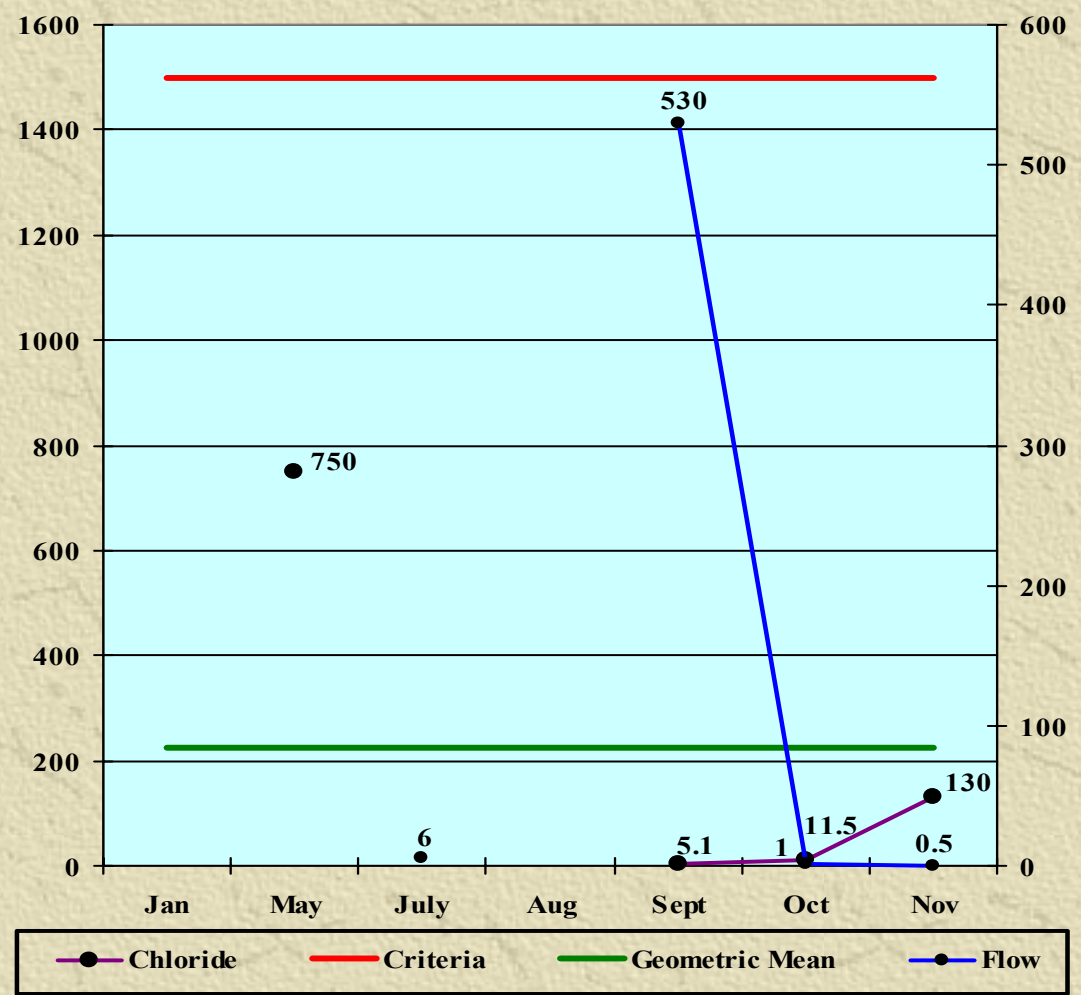


Station ID 13099 Petronila Creek at FM 2826 North of Driscoll



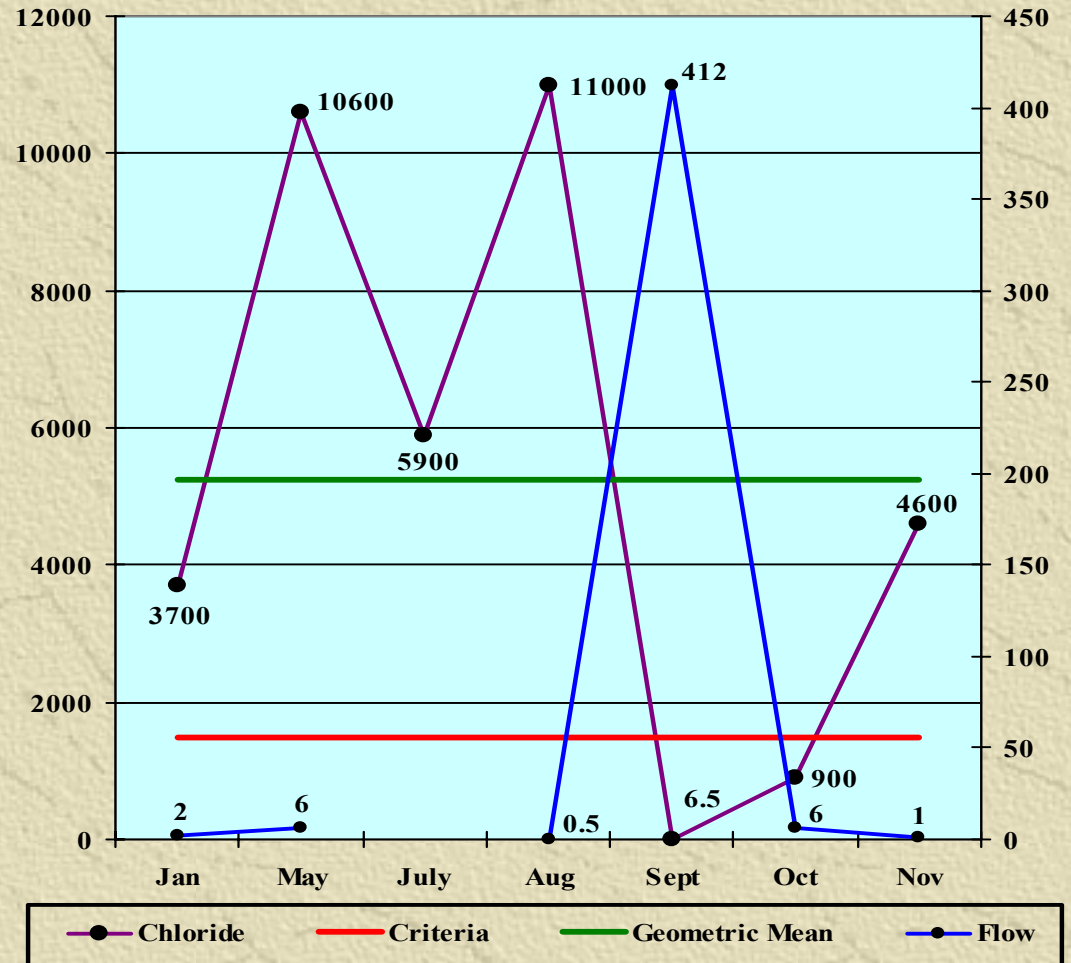


Station ID 13098 Petronila Creek at US 77

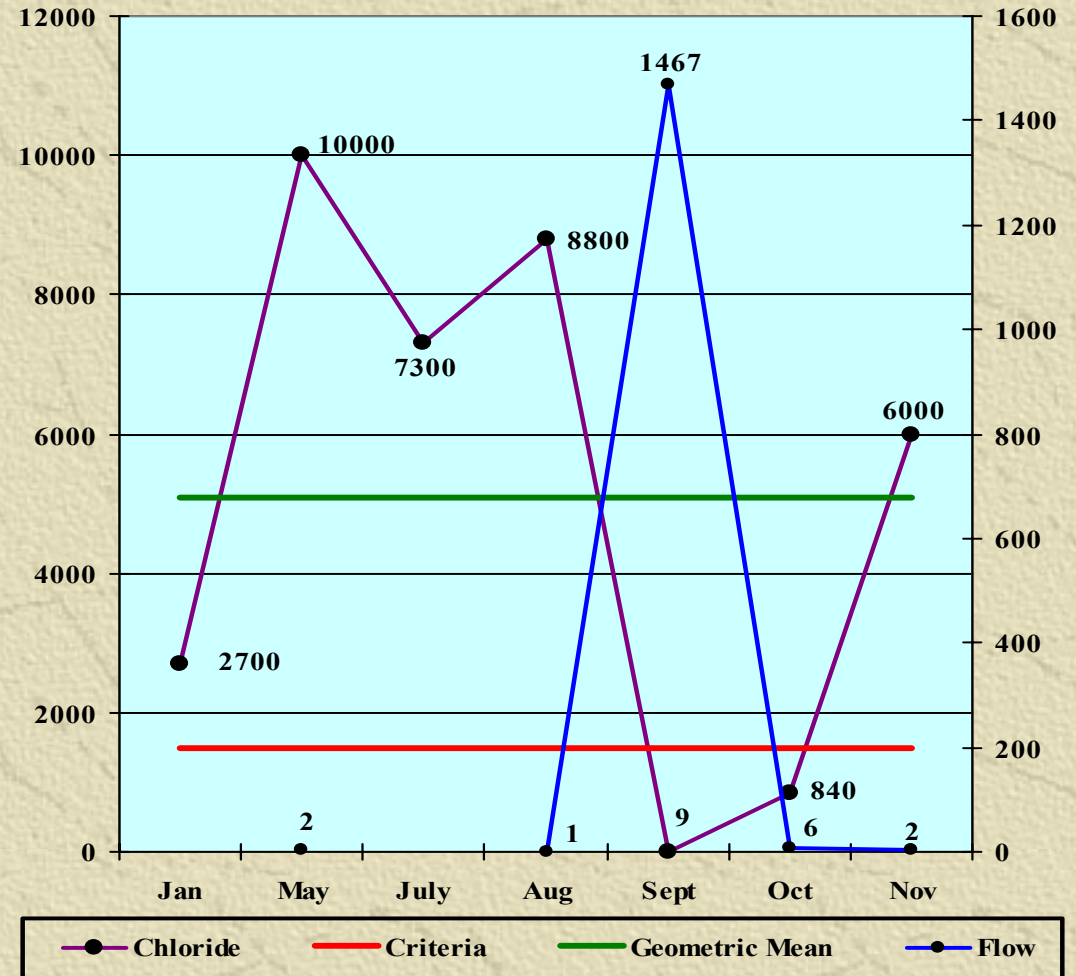
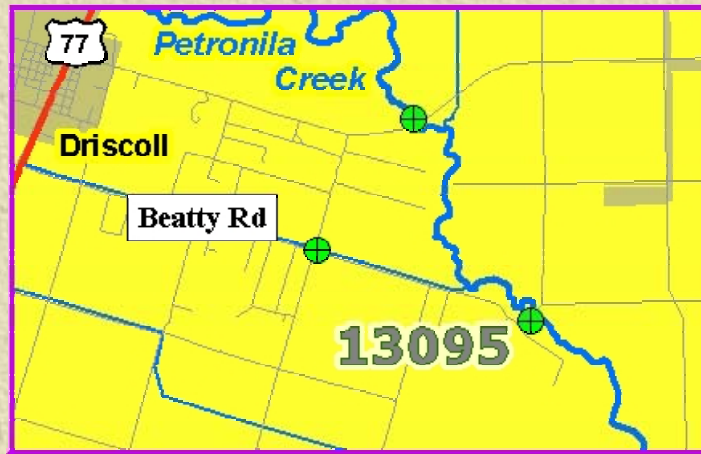




Station ID 13096 Petronila Creek at FM 665 East of Driscoll

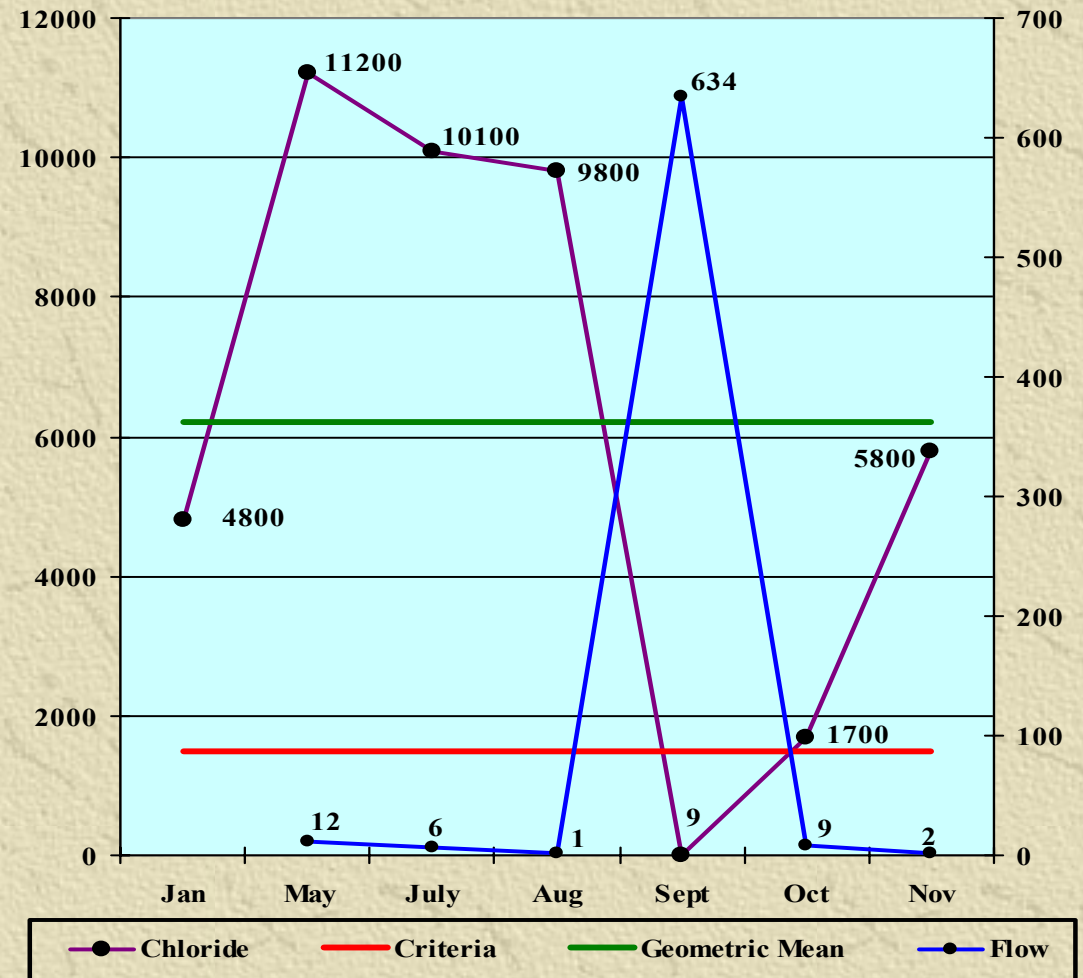
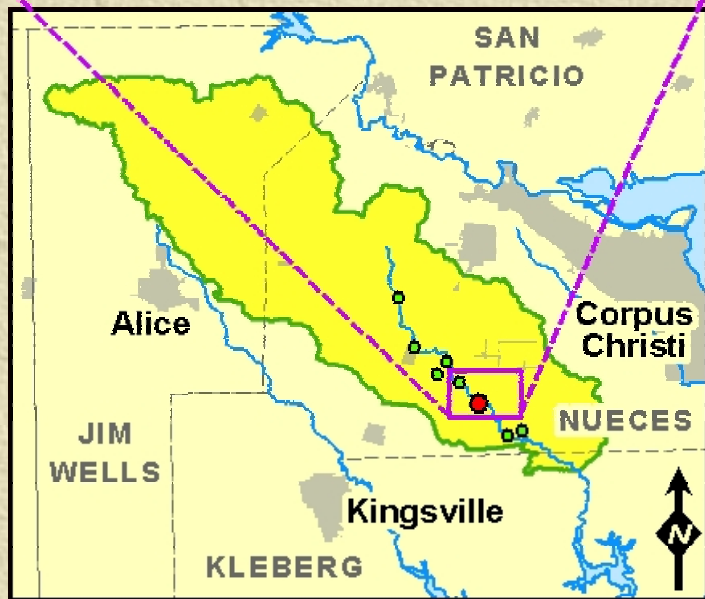


Station ID 13095 Petronila Creek at Beatty Road



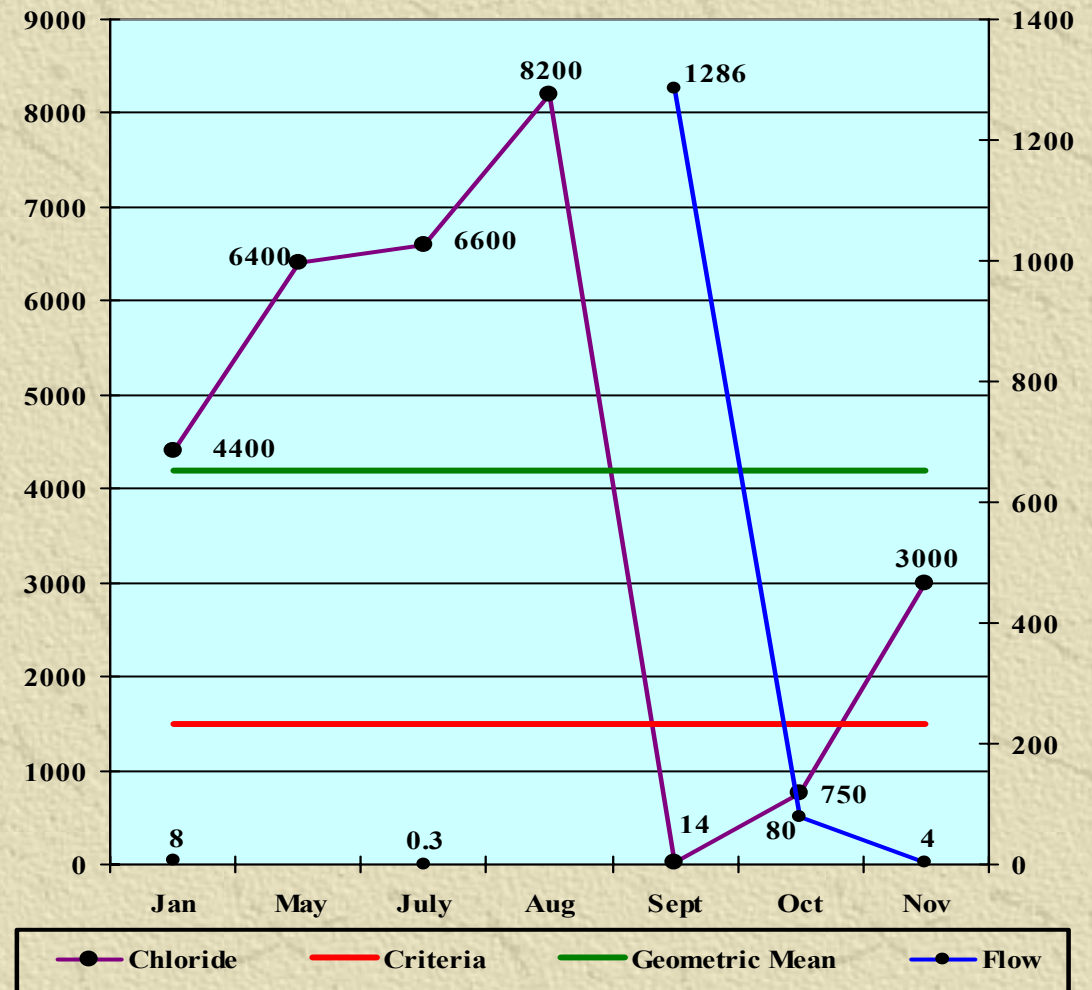
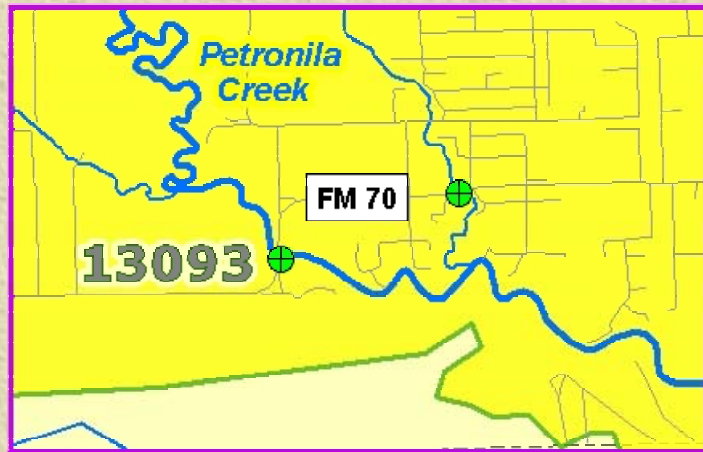


Station ID 13094 Petronila Creek at FM 892



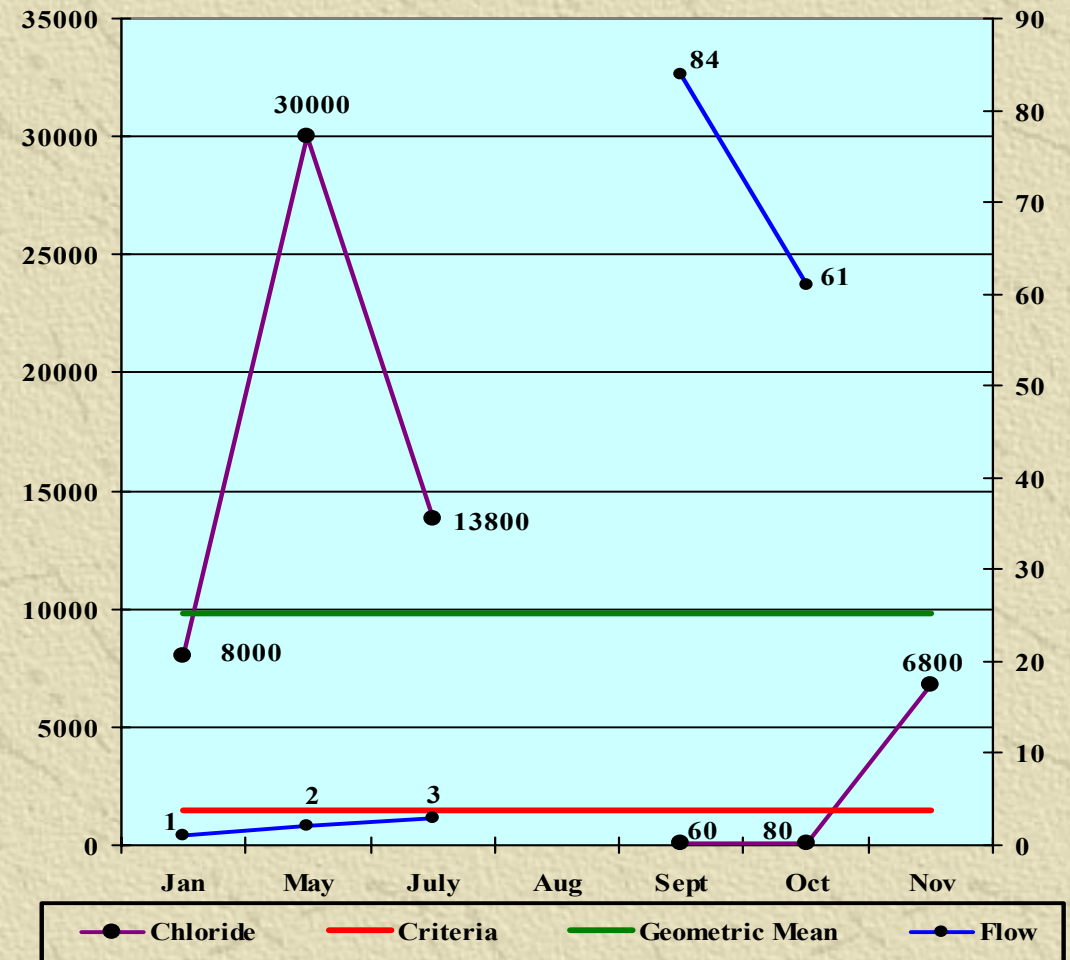
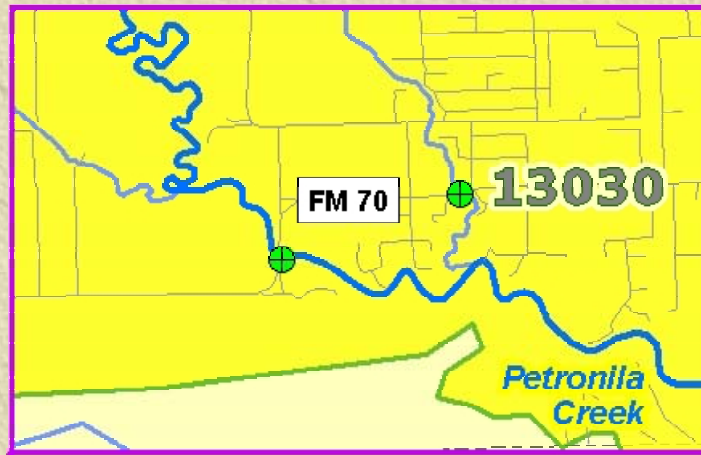


Station ID 13093 Petronila Creek at FM 70 East of Bishop



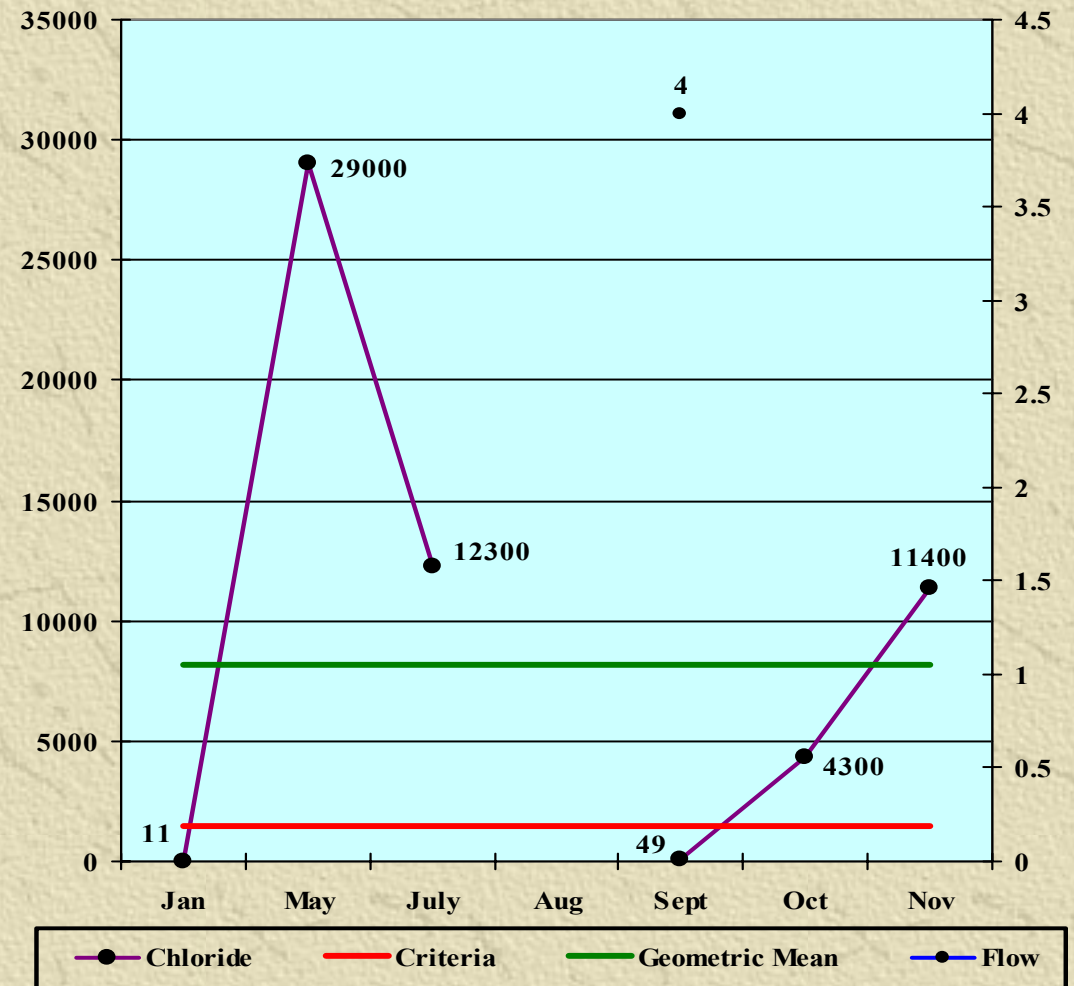
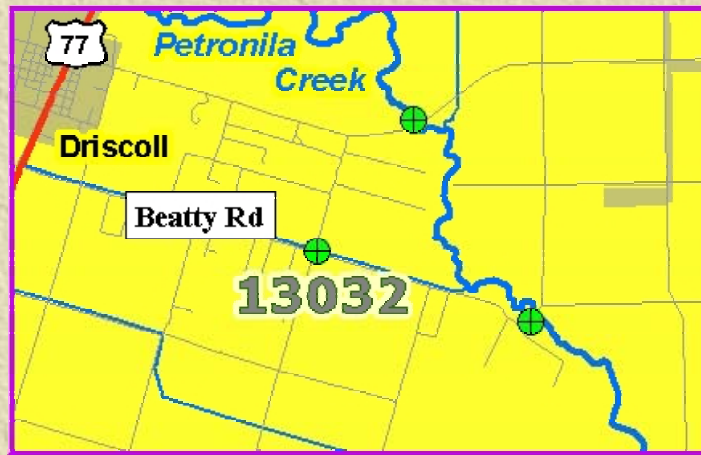


Station ID 13030 Unnamed tributary to Petronila Creek at FM 70 near Stanolindluby





Station ID 13032 Unnamed drainage ditch to tributary to Petronila Creek at Beatty Road

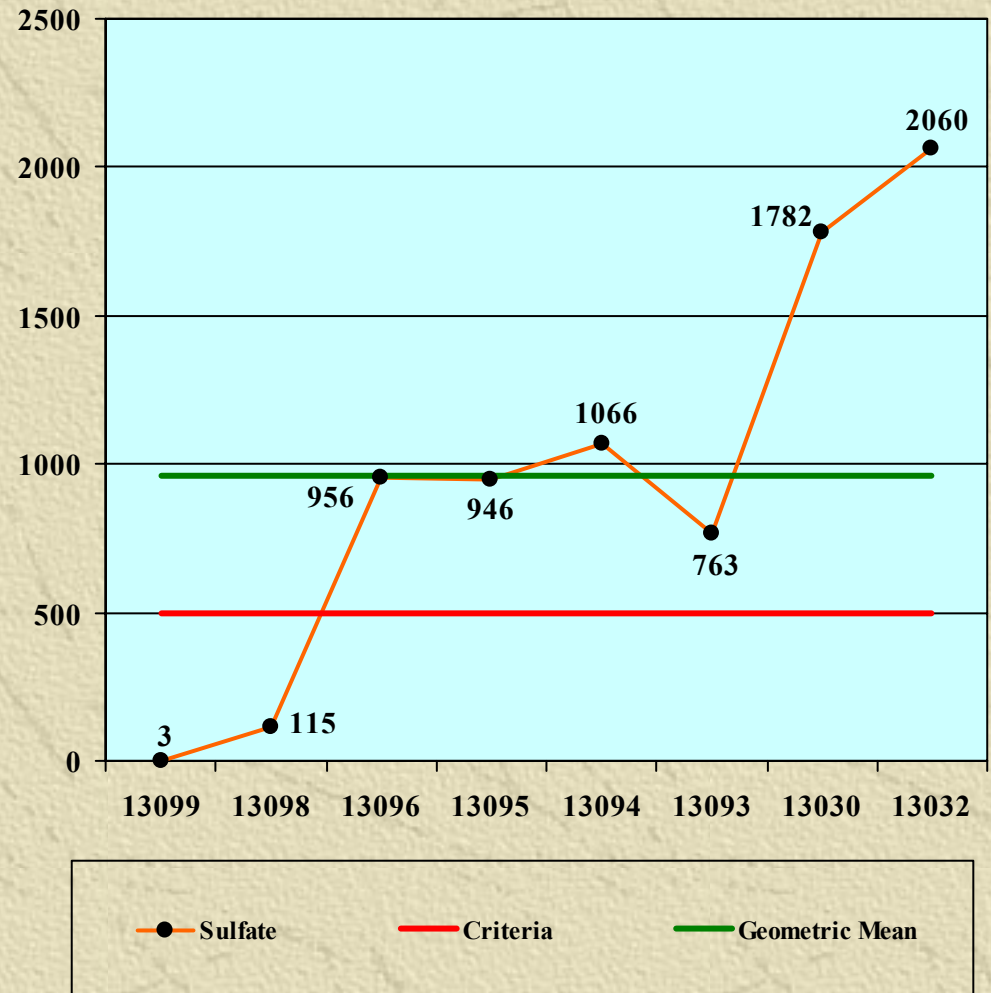




Segment 2204 – Petronila Creek

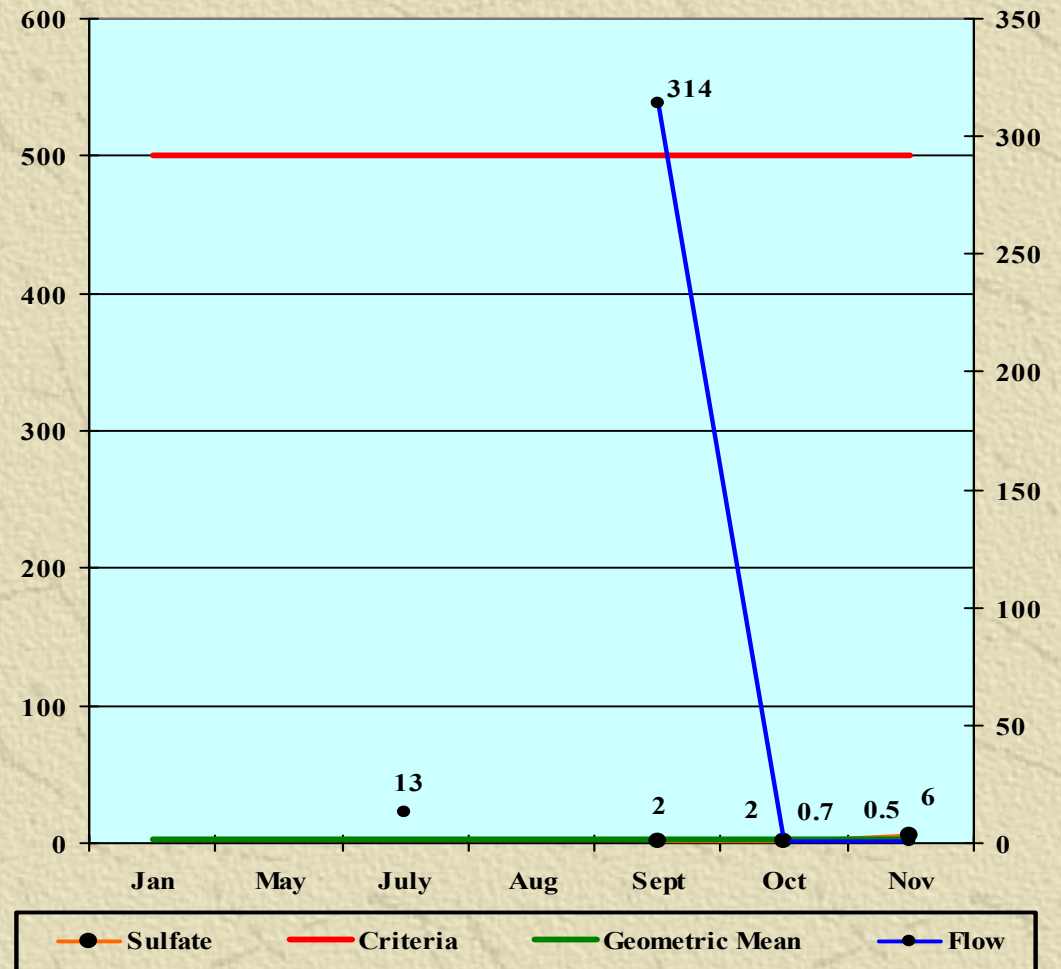
Sulfate - Project Sample Results

- ✠ **Station ID 13099** – Petronila Creek at FM 2826 North of Driscoll
- ✠ **Station ID 13098** – Petronila Creek at US 77
- ✠ **Station ID 13096** – Petronila Creek at FM 665 East of Driscoll
- ✠ **Station ID 13095** – Petronila Creek at Beatty Road
- ✠ **Station ID 13094** – Petronila Creek at FM 892
- ✠ **Station ID 13093** – Petronila Creek at FM 70 East of Bishop
- ✠ **Station ID 13030** – Unnamed tributary to Petronila Creek at FM 70 near Stanolind-Luby
- ✠ **Station ID 13032** – Unnamed drainage ditch tributary to Petronila Creek at Beatty Rd

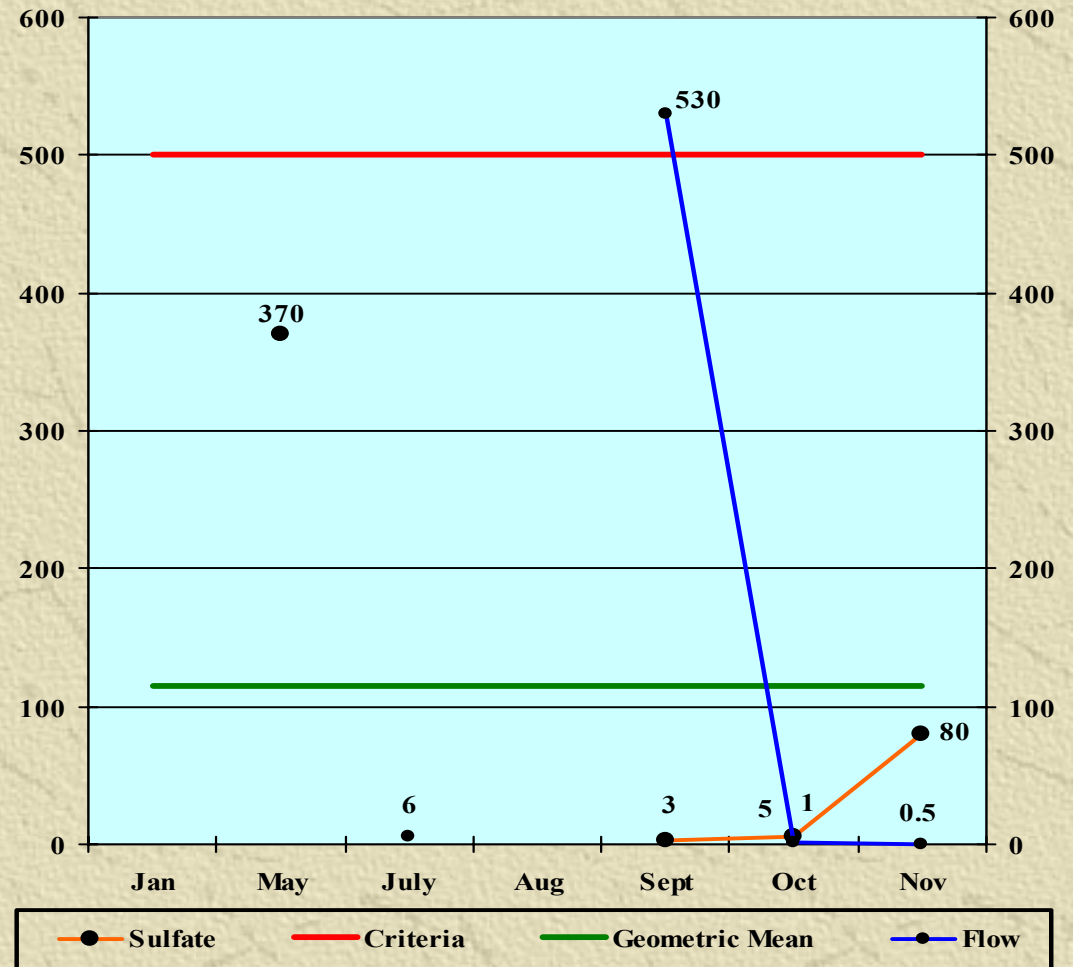




Station ID 13099 Petronila Creek at FM 2826 North of Driscoll

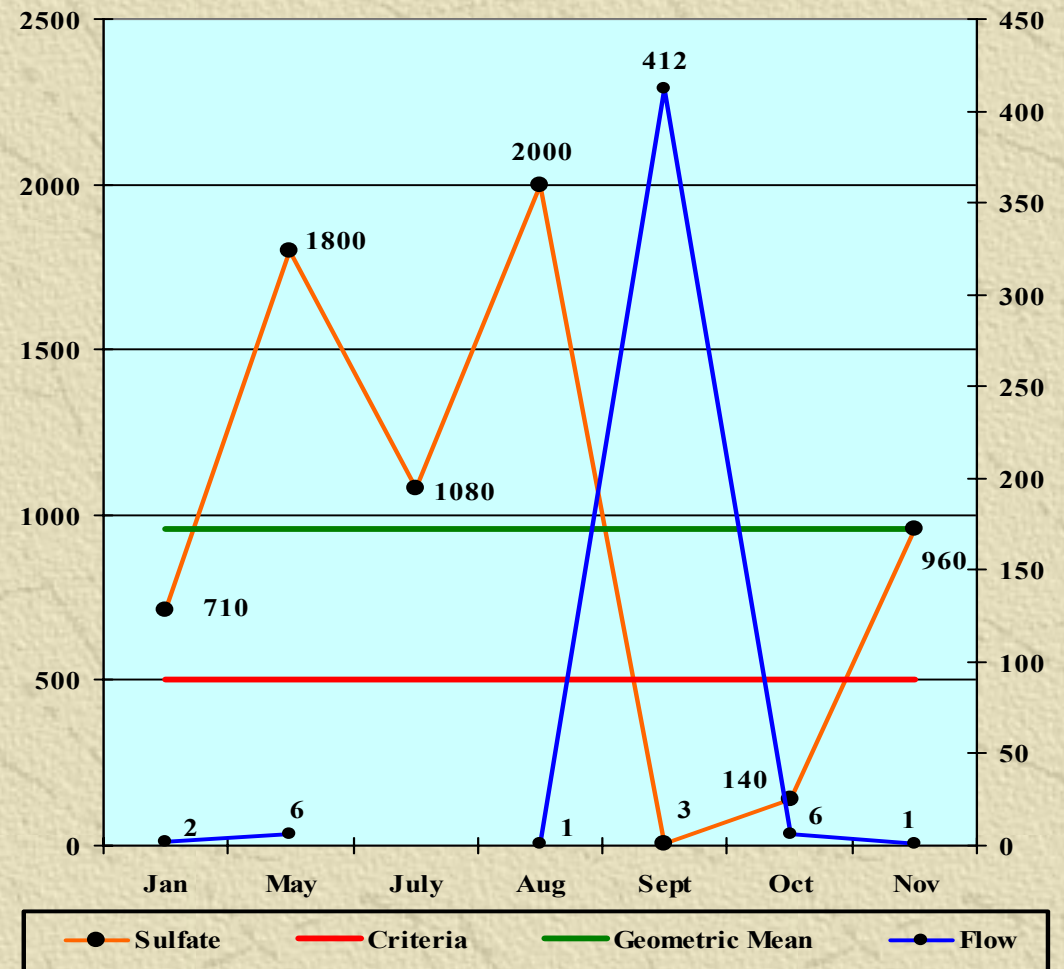
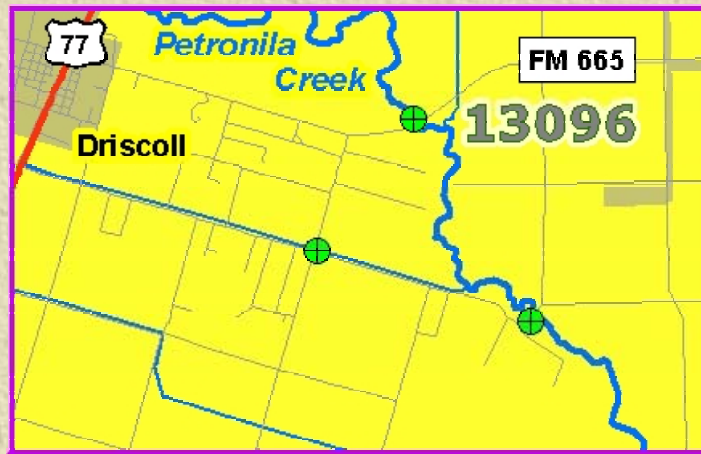


Station ID 13098 Petronila Creek at US 77

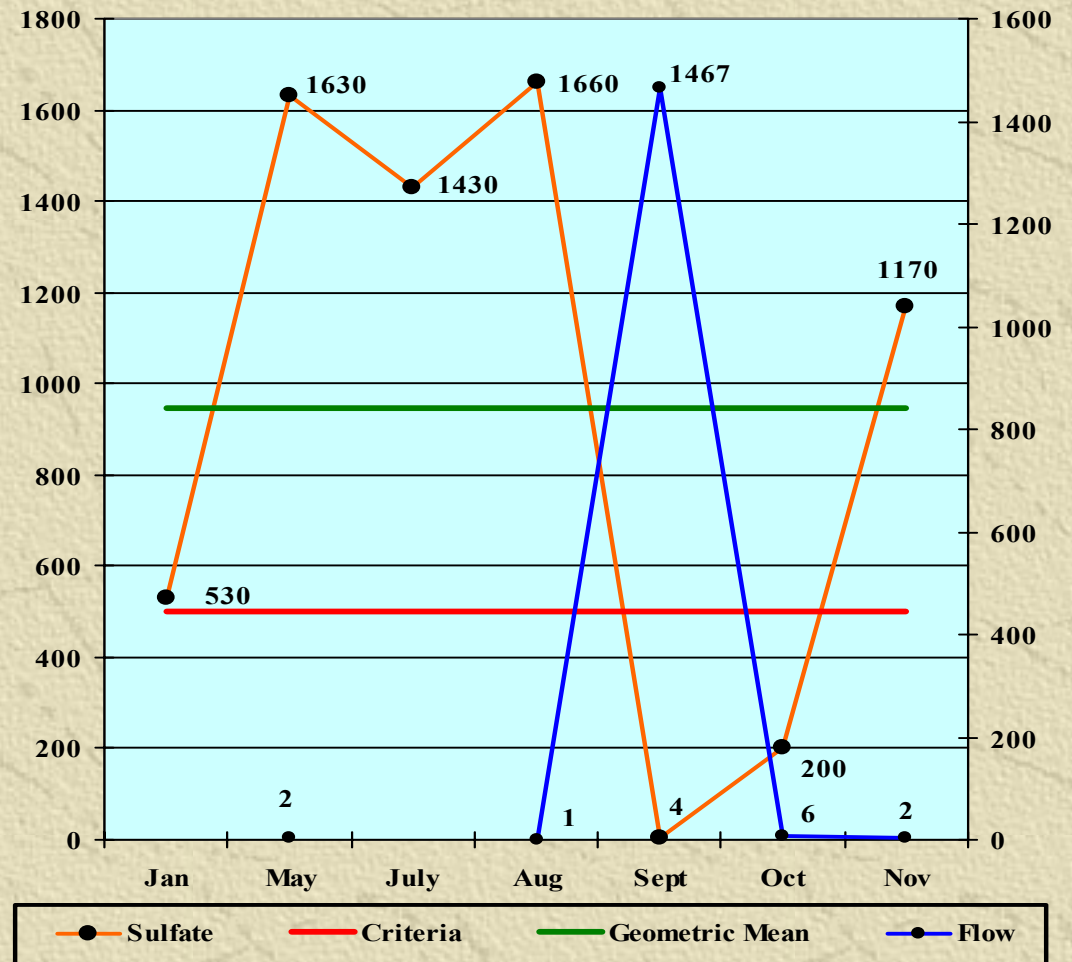
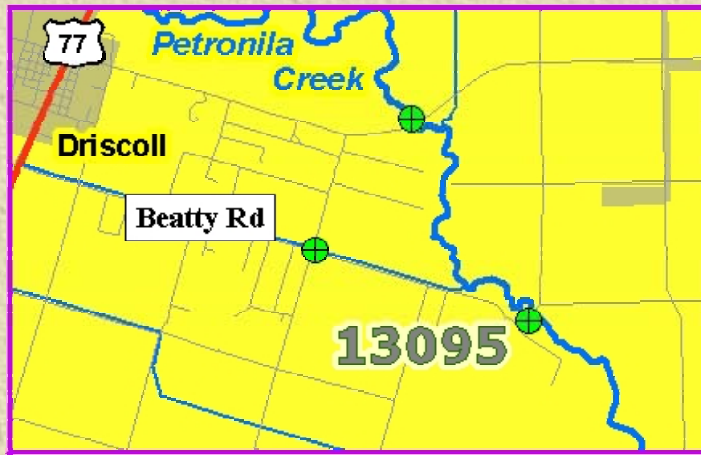




Station ID 13096 Petronila Creek at FM 665 East of Driscoll

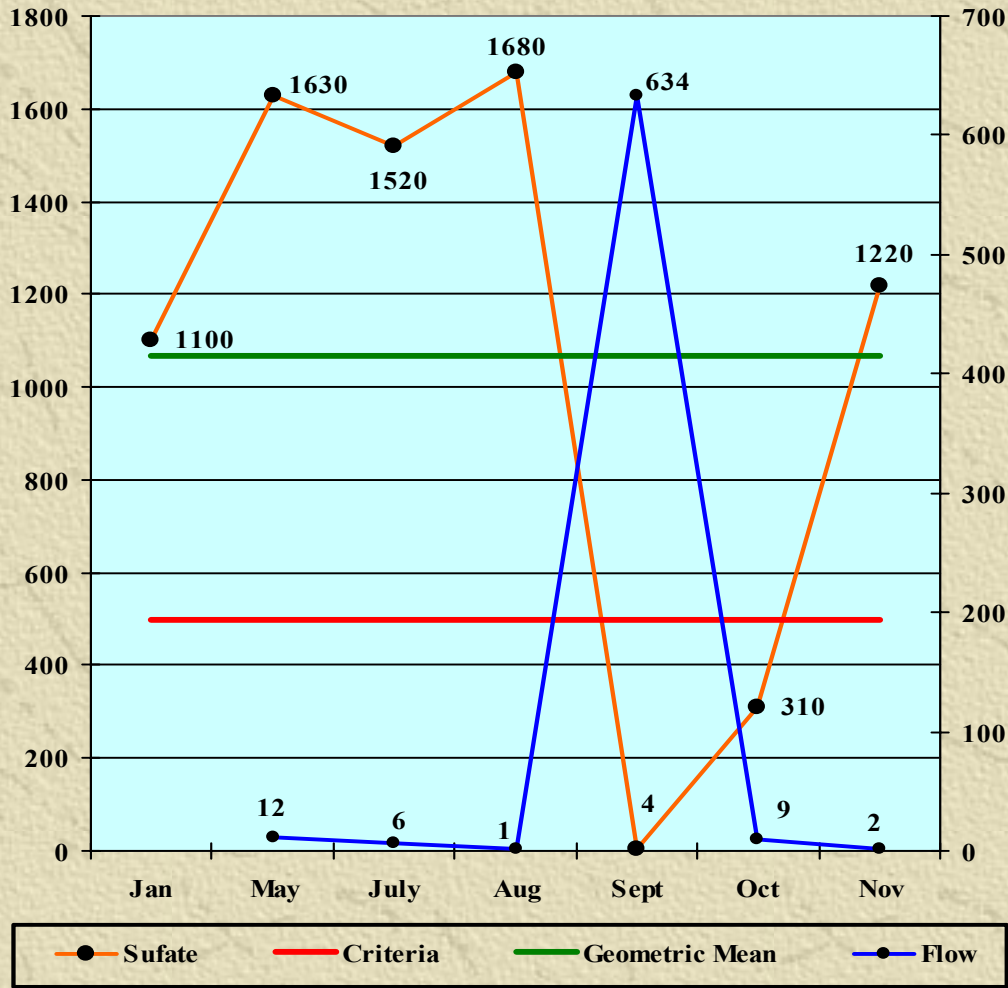
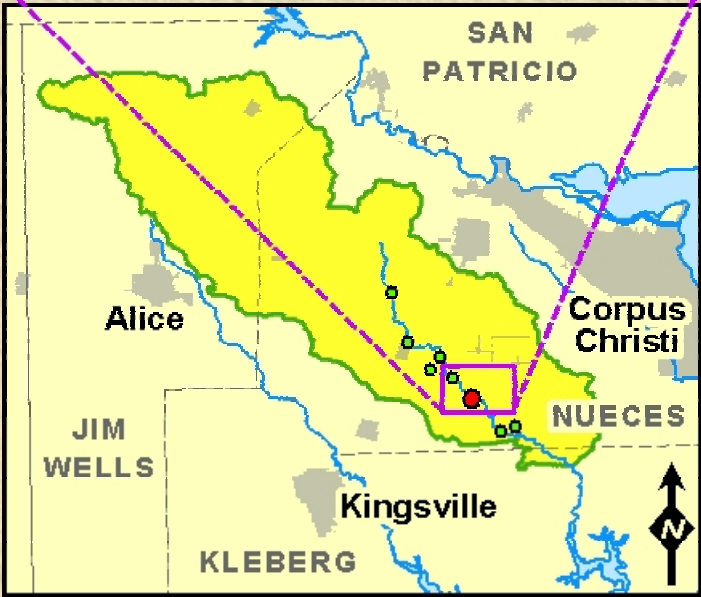
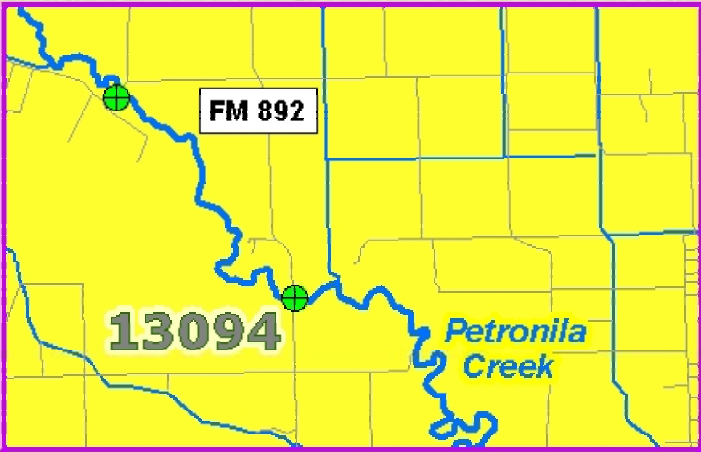


Station ID 13095 Petronila Creek at Beatty Road



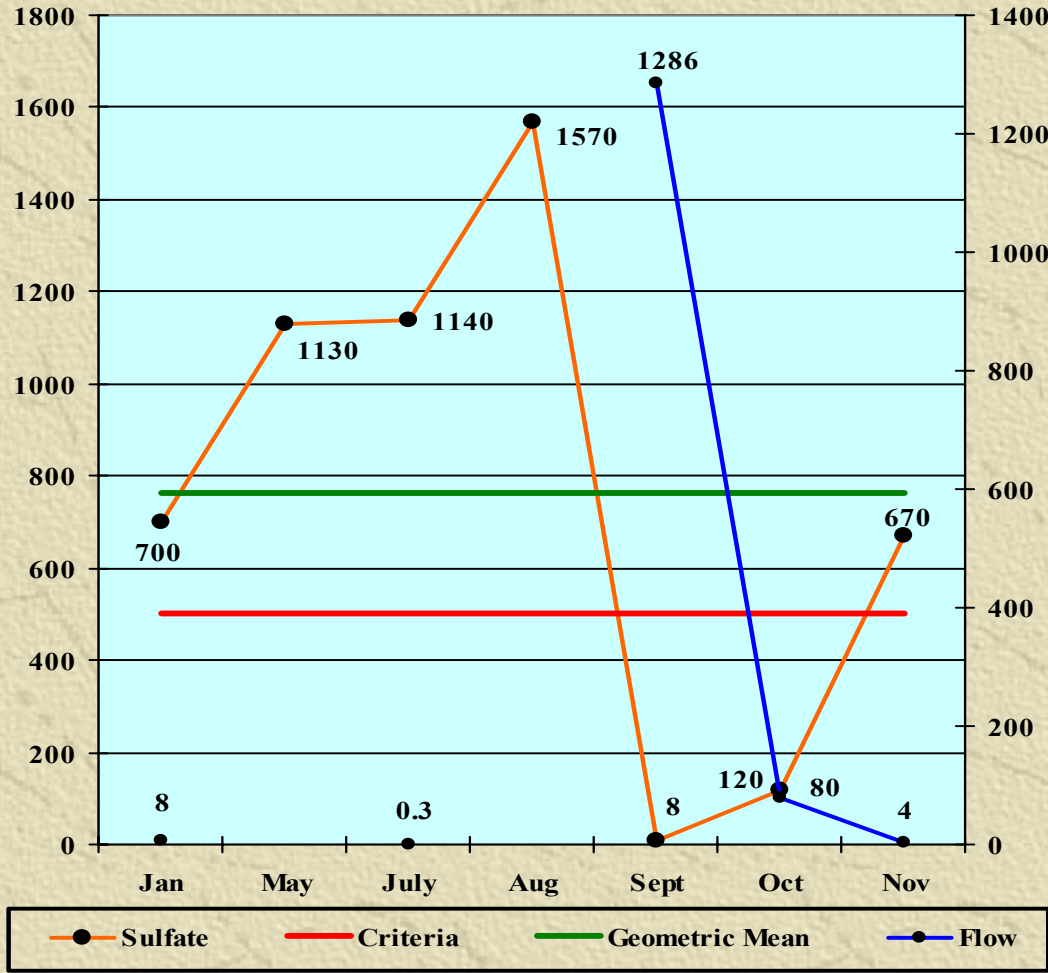


Station ID 13094 Petronila Creek at FM 892



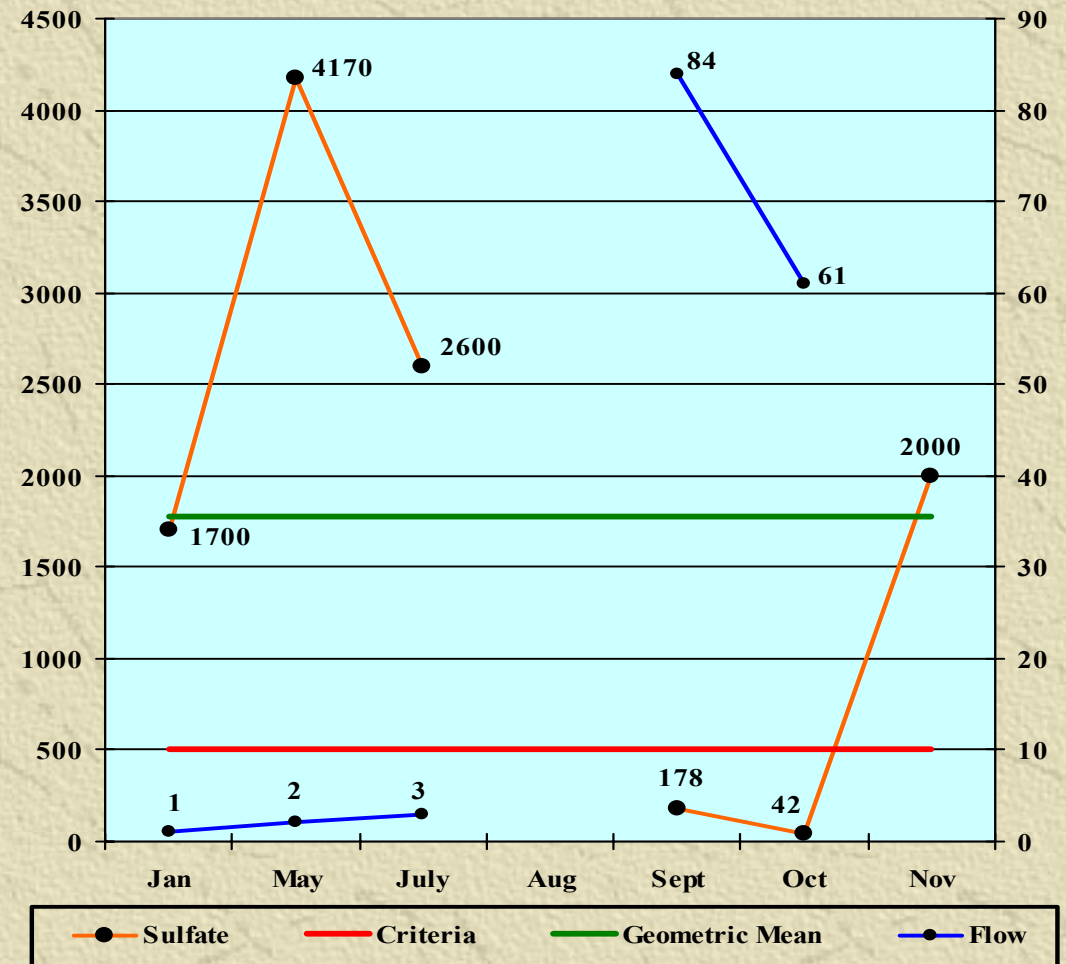
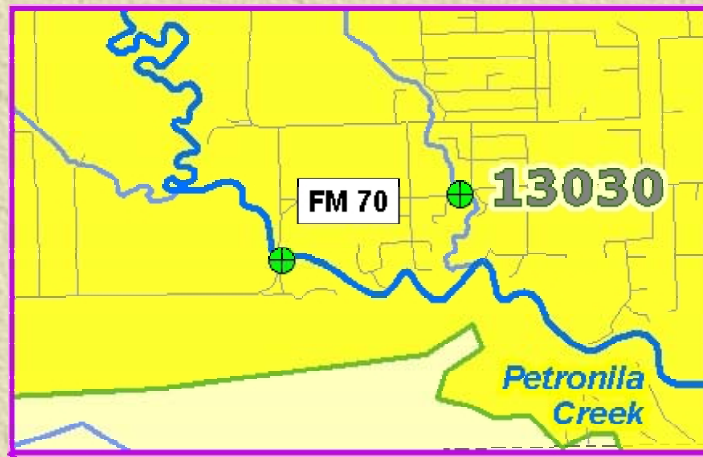


Station ID 13093 Petronila Creek at FM 70 East of Bishop



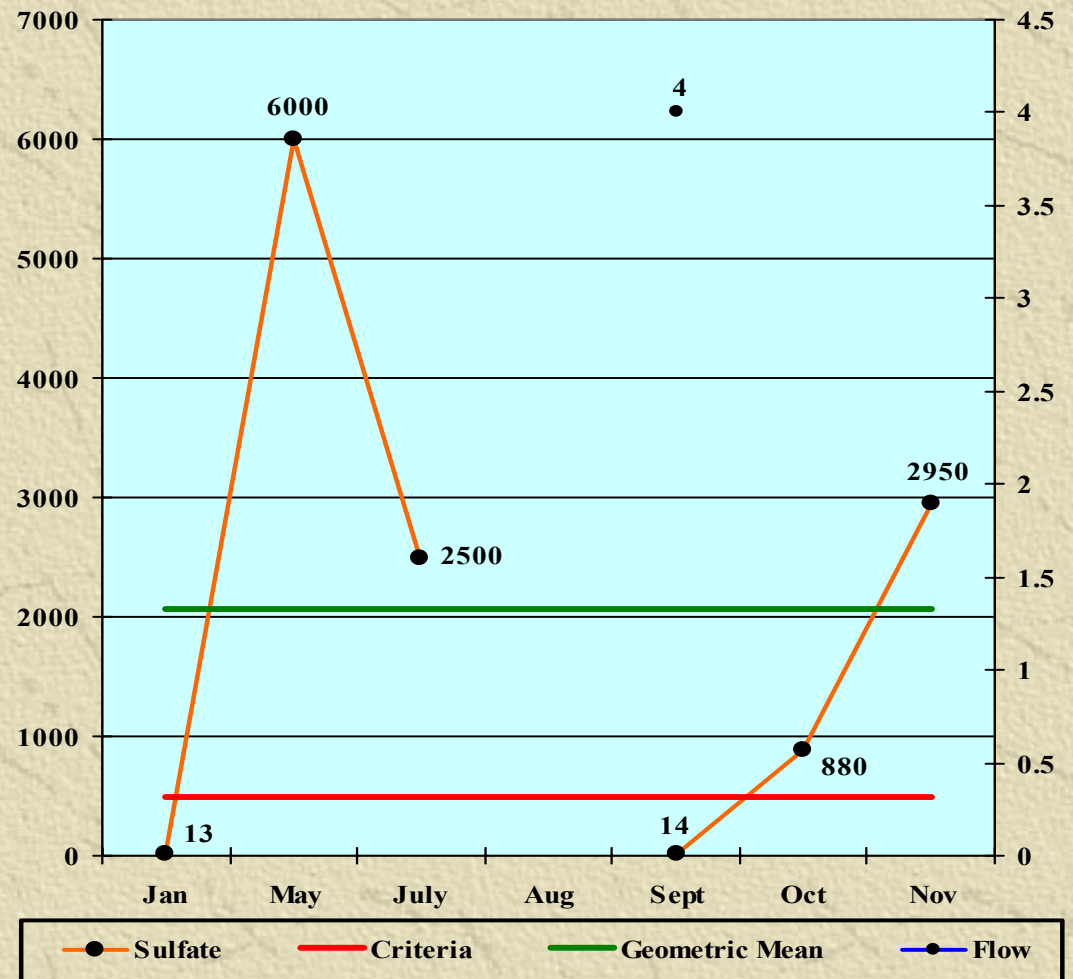
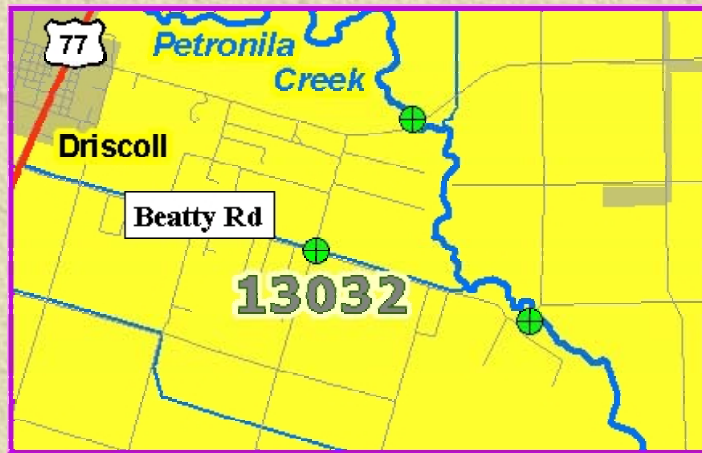


Station ID 13030 Unnamed tributary to Petronila Creek at FM 70 near Stanolind-Luby





Station ID 13032 Unnamed drainage ditch to tributary to Petronila Creek at Beatty Road





Segment 2204 – Petronila Creek

TDS - Project Sample Results

✧ **Station ID 13099** – Petronila Creek at FM 2826 North of Driscoll

✧ **Station ID 13098** – Petronila Creek at US 77

✧ **Station ID 13096** – Petronila Creek at FM 665 East of Driscoll

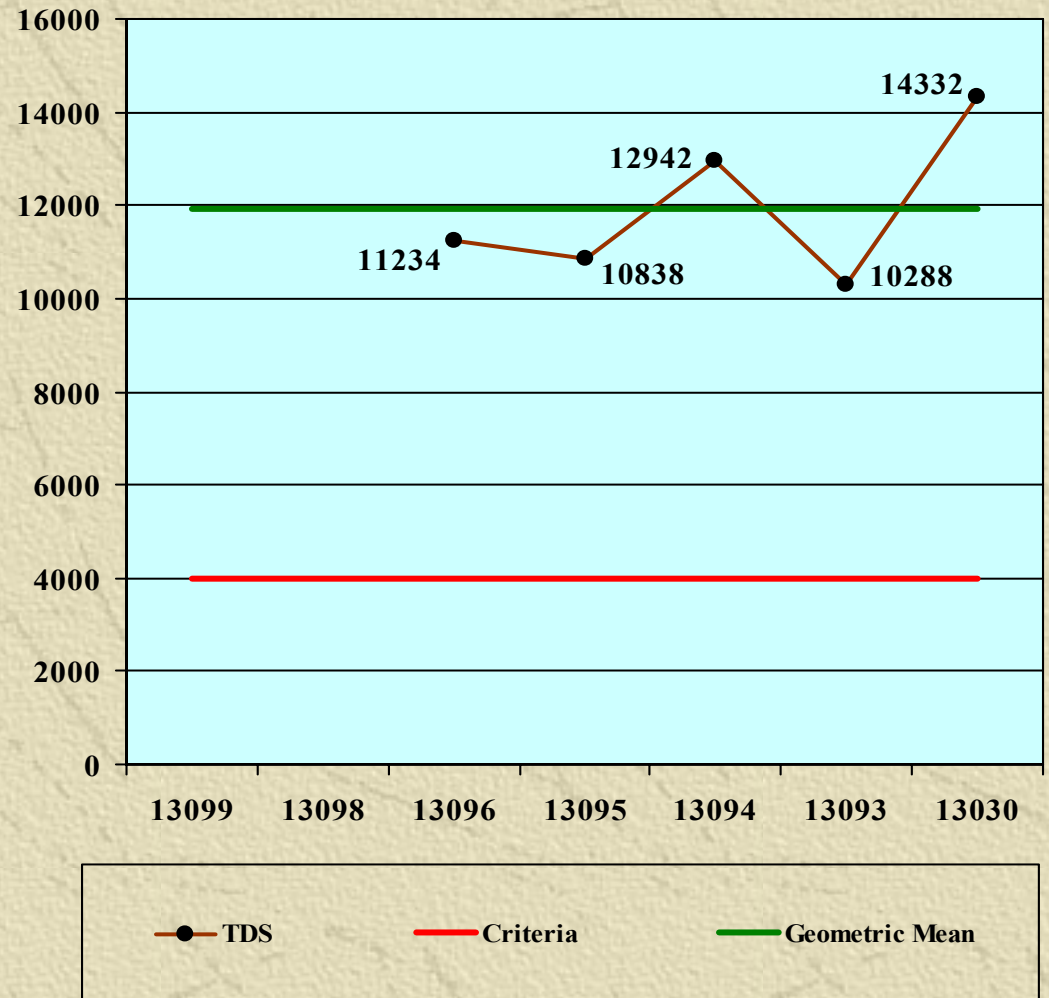
✧ **Station ID 13095** – Petronila Creek at Beatty Road

✧ **Station ID 13094** – Petronila Creek at FM 892

✧ **Station ID 13093** – Petronila Creek at FM 70 East of Bishop

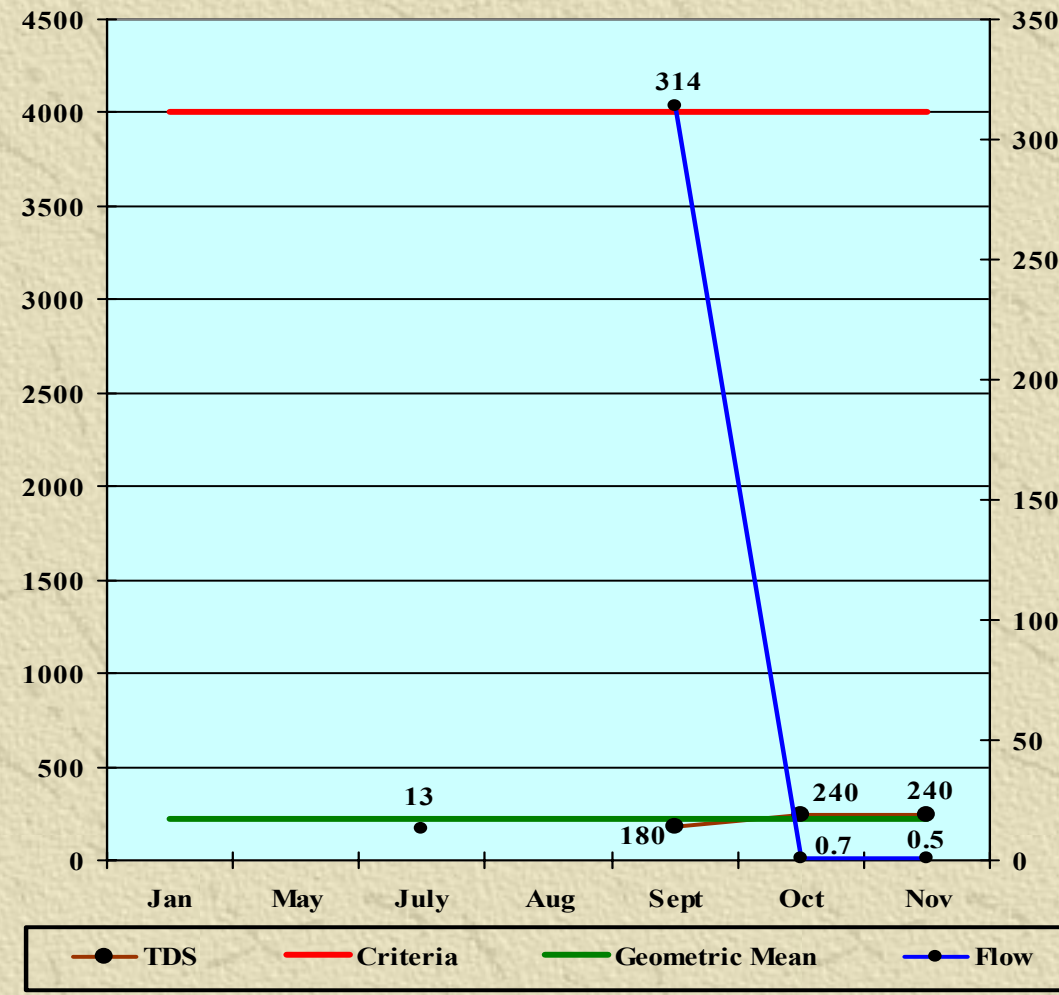
✧ **Station ID 13030** – Unnamed tributary to Petronila Creek at FM 70 near Stanolind-Luby

✧ **Station ID 13032** – Unnamed drainage ditch tributary to Petronila Creek at Beatty Rd



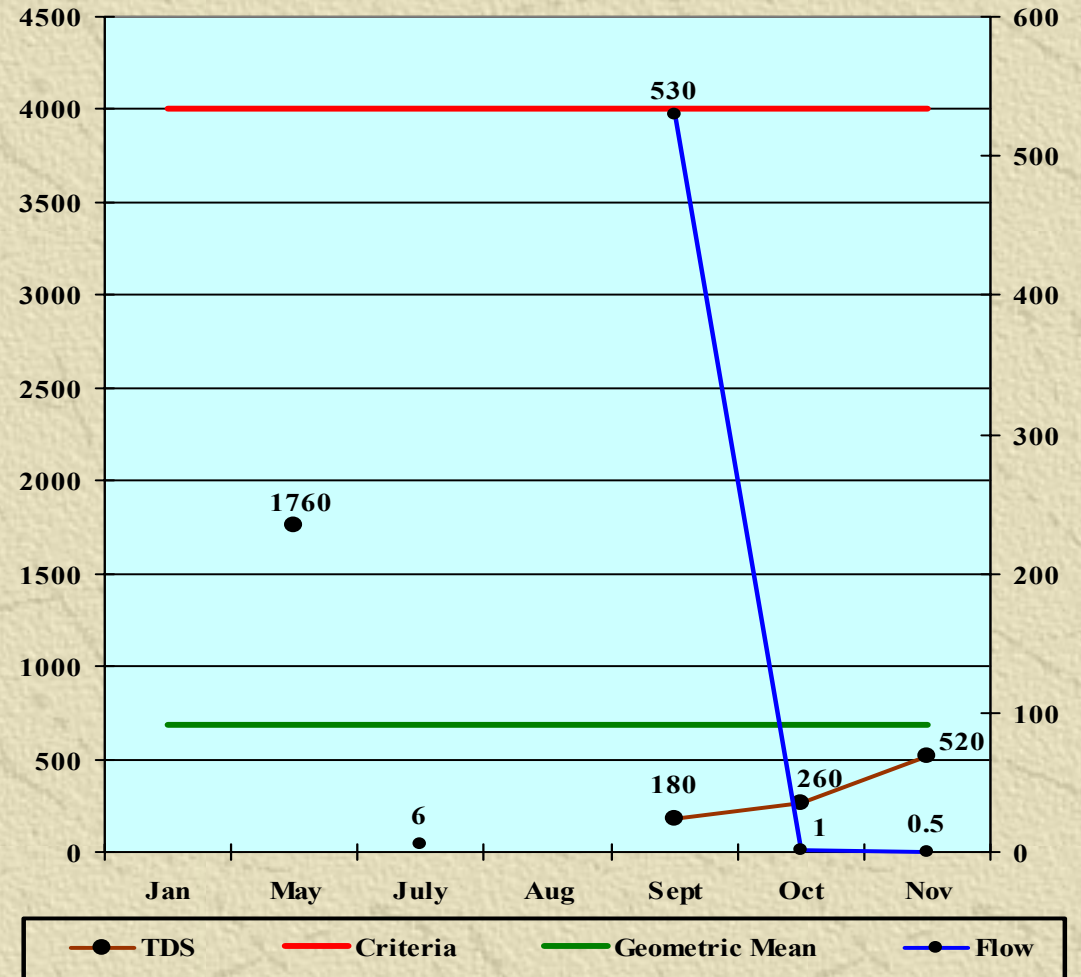


Station ID 13099 Petronila Creek at FM 2826 North of Driscoll



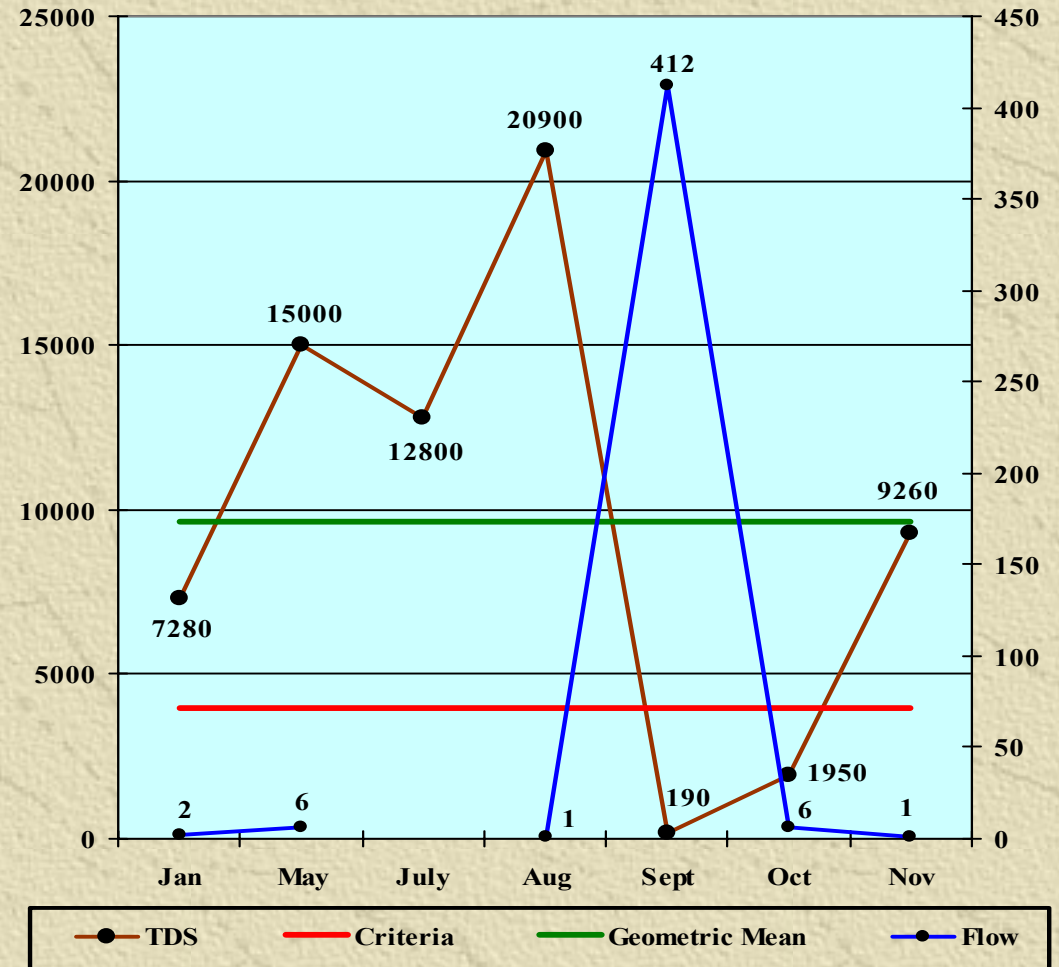


Station ID 13098 Petronila Creek at US 77



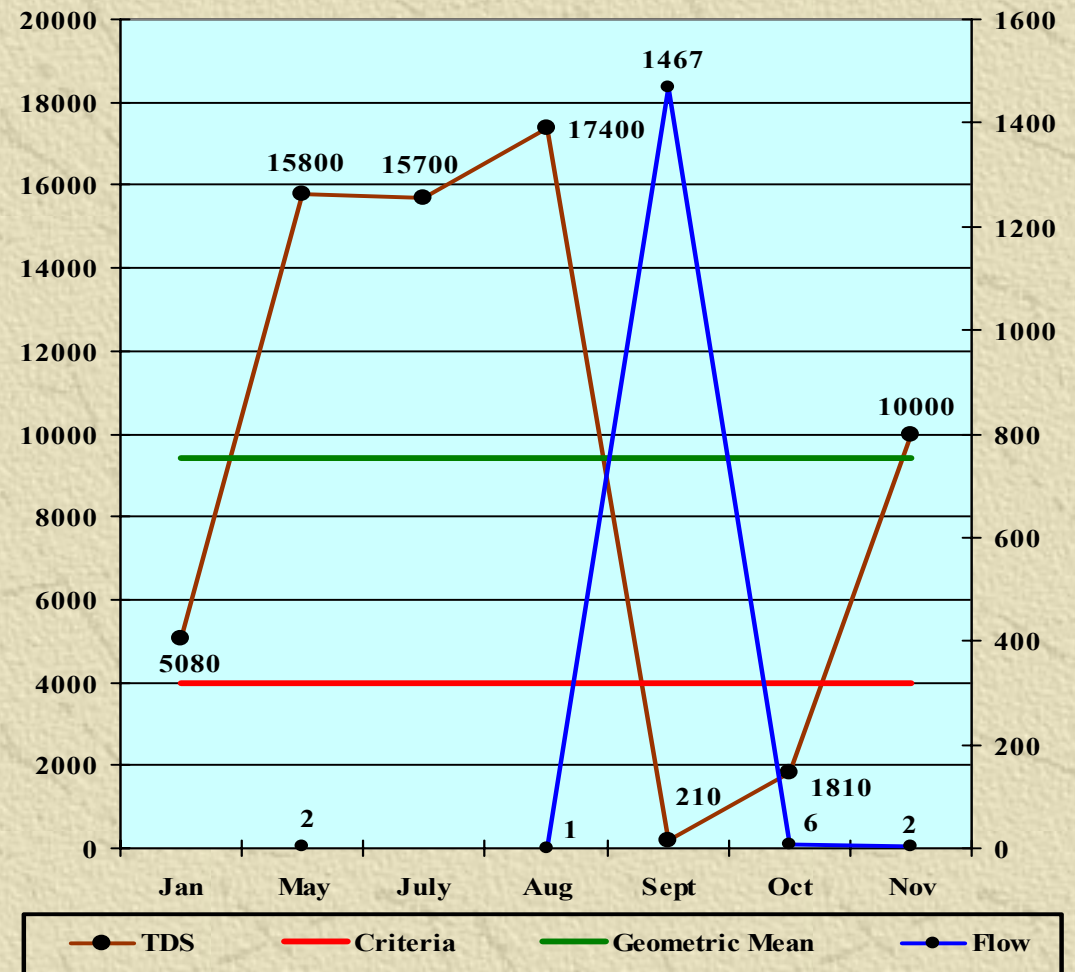
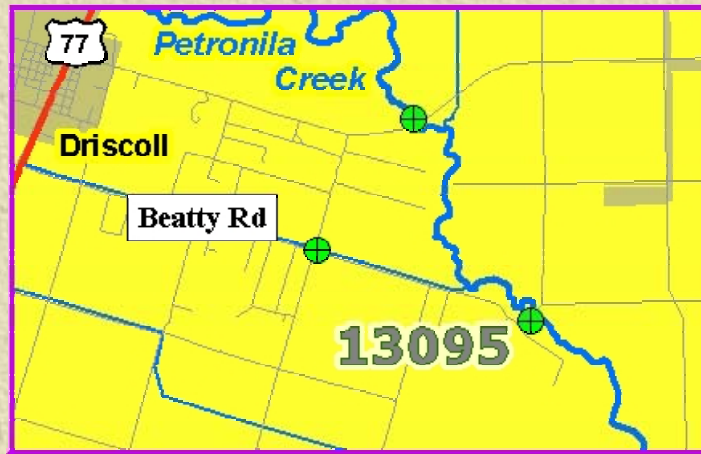


Station ID 13096 Petronila Creek at FM 665 East of Driscoll



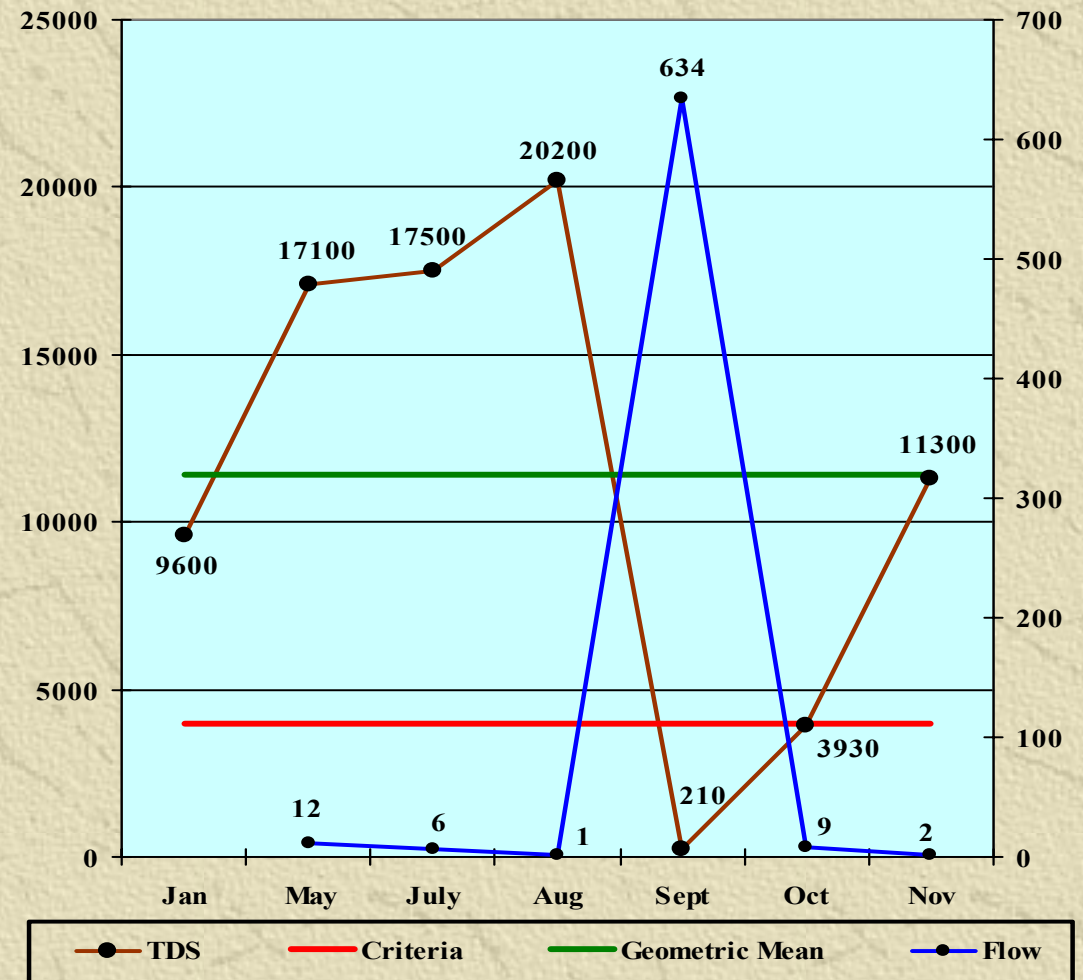
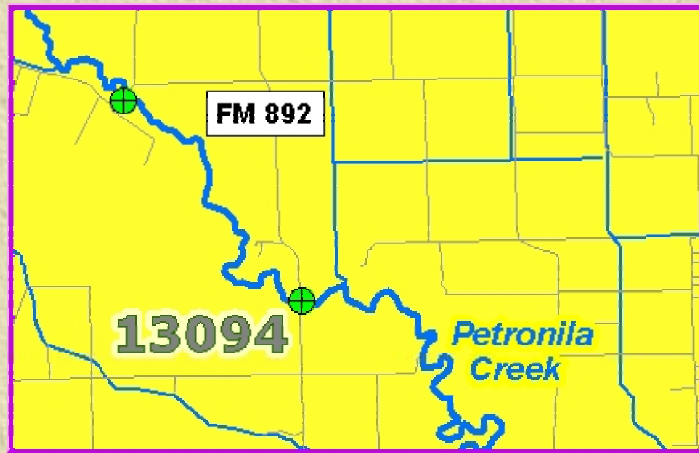


Station ID 13095 Petronila Creek at Beatty Road



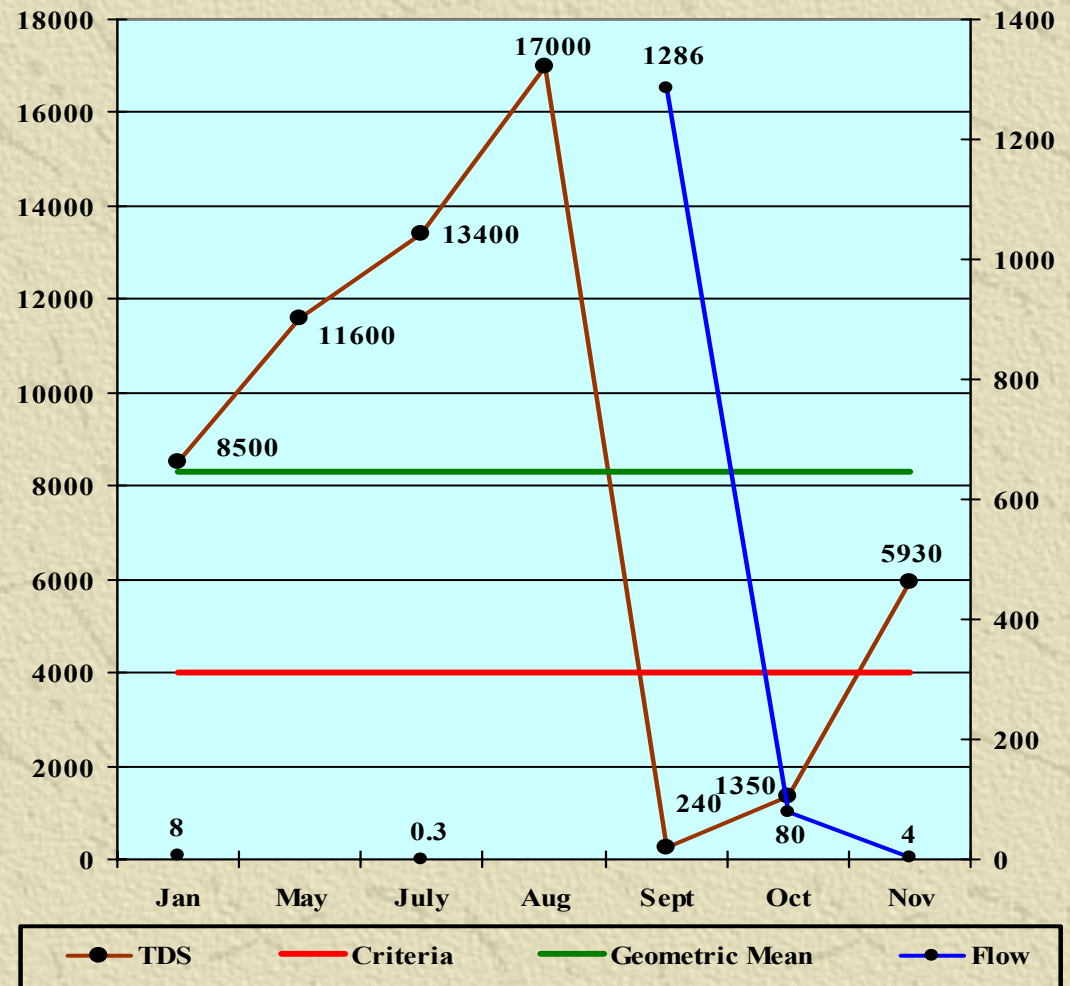


Station ID 13094 Petronila Creek at FM 892



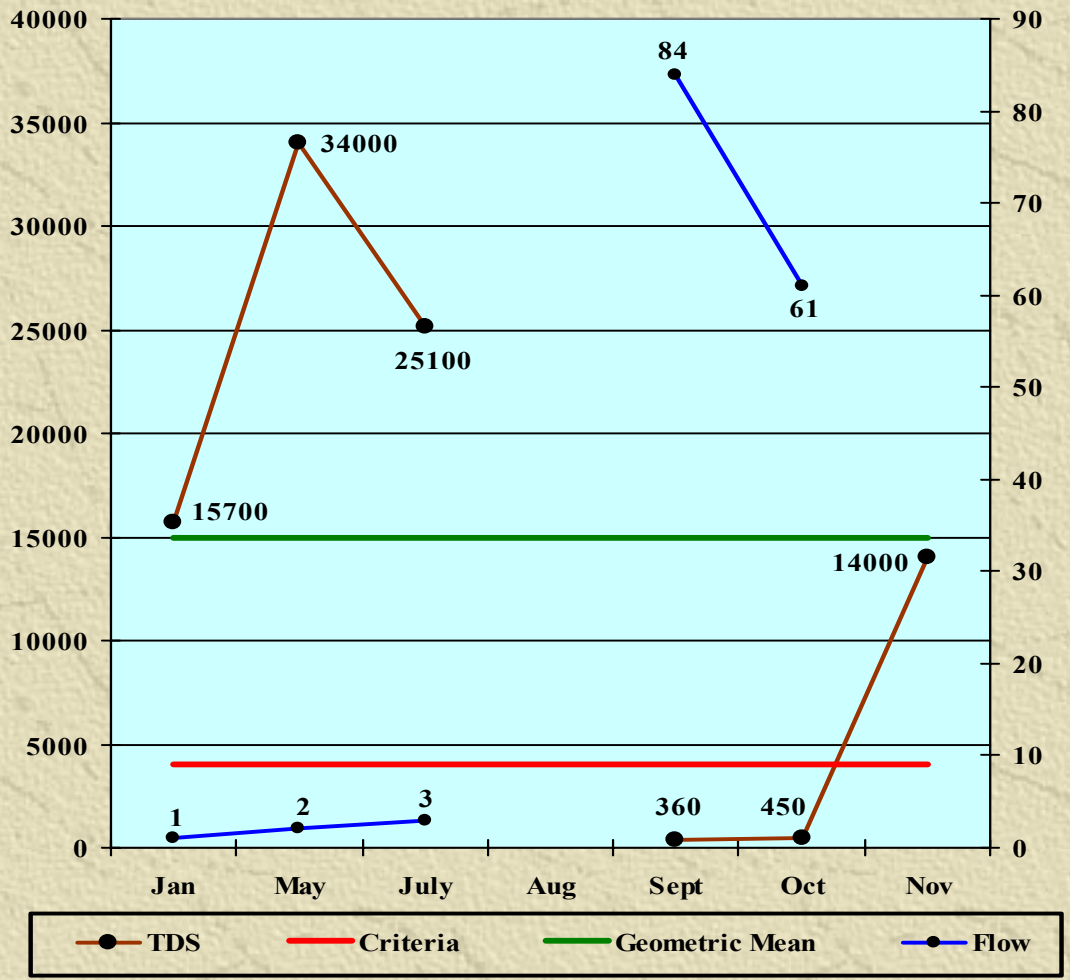
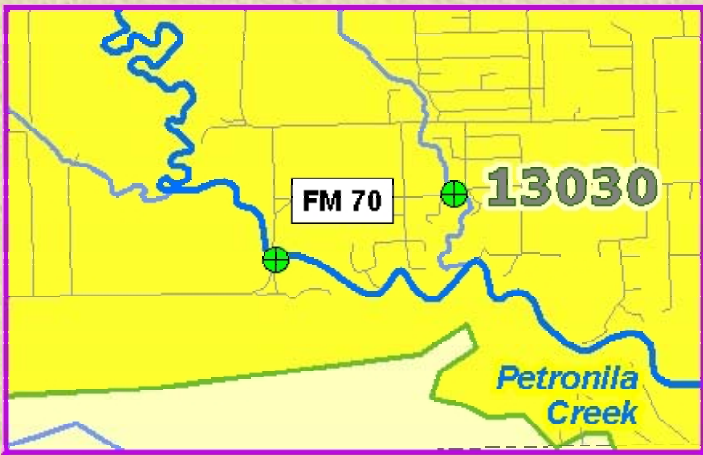


Station ID 13093 Petronila Creek at FM 70 East of Bishop



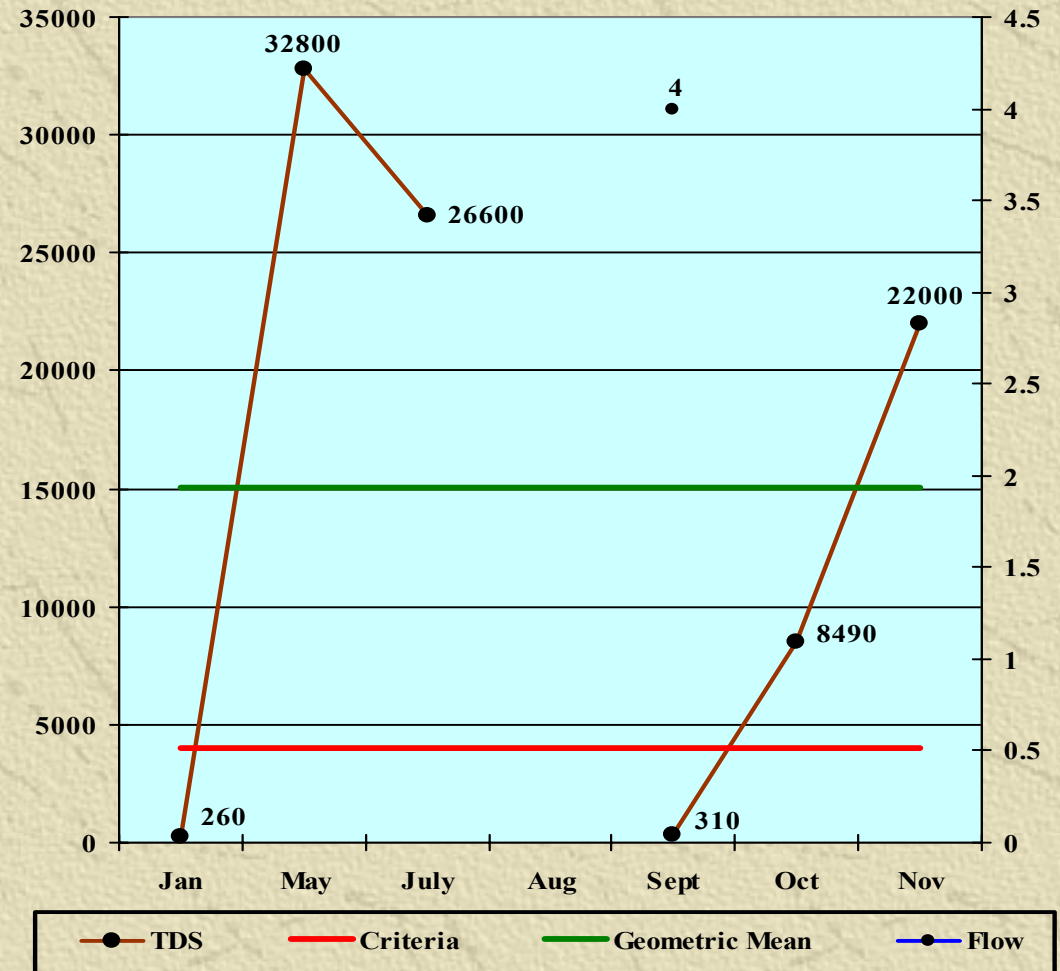
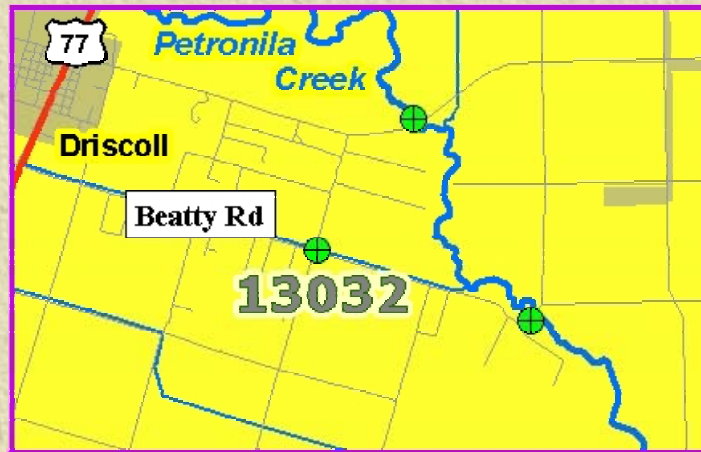


Station ID 13030 Unnamed tributary to Petronila Creek at FM 70 near Stanolind-Luby





Station ID 13032 Unnamed drainage ditch to tributary to Petronila Creek at Beatty Road



CONCLUSIONS

- ✦ Now that the data collection phase of the project is complete, the project team can thoroughly compare data results under baseline, runoff, and storm event conditions to suspect impairment sources, specifically:
 - ◆ Groundwater Migration/Geology
 - ◆ Non-compliant Saltwater Injection, Oil, & Gas Wells
 - ◆ Agriculture
- ✦ Next Phase – Modeling (The Louis Berger Group)



Questions/Concerns

**[www.tceq.state.tx.us/water/
quality/tmdl/](http://www.tceq.state.tx.us/water/quality/tmdl/)**

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